

# **EPA Registration Jacket 69361-28**

**ISB'S Front-end PRIA Completeness Screen**  
Draft 3; 10/25/07

EPA Receipt Date: <u>4/9/10</u>		EPA Reg. Number: <u>69361-E1</u>		
	<b>Check List Item</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
1	Has the <b>PRIA Fee been Paid</b> ; is a copy of the check or Pay.gov receipt included in the Submission Package?	✓		
2	Is an <b>Application Form</b> (EPA Form 8570-1) Included in the Submission Package, is it completely filled out and signed including package type?	✓		
3	Is a <b>Confidential Statement of Formula</b> (EPA Form 8570-29) Included in the Submission Package, is it completely filled out and signed (boxes 1-21)?	✓		
4	Is a <b>Formulator's Exemption Statement</b> (EPA Form 8570-27) Included in the Submission Package?	✓		
5	Is a <b>Certification with Respect to Citation of Data</b> (EPA Form 8570-34) Included in the Submission Package?		✓	
6	Is a <b>Data Matrix</b> (EPA Form 8570-35) Included in the Submission Package?		✓	
7	Is a <b>Label</b> Included in the Submission Package?	✓		
8	Are <b>Data</b> Included in the Submission Package?	<del>✓</del>	✓	
9	Is the Submission an <b>Amendment</b> ?		✓	

NEW APPLICATIONS

DATE: 4/12/10

FILE NUMBER: 69361-E1

FEP (OPPIN ENTRY) jem 4/12/10  
(Initial & date)

FILE ROOM: \_\_\_\_\_  
(Initial & date)

SIG: \_\_\_\_\_  
(Initial & date)

FILE ROOM: \_\_\_\_\_  
(Initial & date)

/ ASSIGN TO PM 25 (NO DATA)

\_\_\_\_ JACKET TO SHELF (DATA)



U.S. ENVIRONMENTAL PROTECTION  
AGENCY

Office of Pesticide Programs  
Registration Division (7505P)  
Ariel Rios Building  
1200 Pennsylvania Ave., NW  
Washington, D.C. 20460

EPA Reg. Number:

69361-28

Date of Issuance:

JUL 1 2010

NOTICE OF PESTICIDE:

☒ Registration  
☐ Reregistration  
(under FIFRA, as amended)

Term of Issuance: Unconditional

Name of Pesticide Product:

Topdog 41% Plus

Name and Address of Registrant (include ZIP Code):

Repar Corporation  
8070 Georgia Ave, Suite 209  
Silver Spring, MD 20910

**Note:** Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act. Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is unconditionally registered in accordance with FIFRA sec. 3(c)(5) provided that you:

1. Submit and/or cite all data required for registration review/reregistration of your product when the Agency requires all registrants of similar products to submit data.

2. Make the following label changes:

- Revise the EPA Registration Number from 69361- to 69361-28
- Add an appropriate EPA Establishment Number to the label.
- Add appropriate Net Contents information to the label
- Add "and rinsate" after "equipment washwaters" in the Environmental Hazards section
- On page 41, revise the 2 occurrences of "Higher application rates" to "Higher specified application rates"
- On page 46, in the RR Canola section, revise 1 qt to 2 qts in the Maximum Application Rates table for "Total of all in-crop applications from emergence to canopy closure or prior to bolting in the spring"
- On page 49, revise "Higher rates may be required" to "Higher specified rates may be required"
- On page 54, in the RR Soybean section, revise "6 qts" to "3qts" in the Maximum Application Rates table for "Total of all In-crop applications from cracking through flowering"

Signature of Approving Official:

Jim Tompkins  
Product Manager 25  
Herbicide Branch  
Registration Division (7505P)

Date:

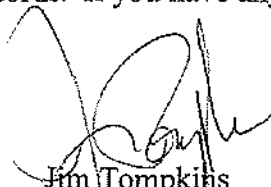
JUL 1 2010



- i. On page 111, revise "recommended rate" to "specified rate"

The basic formulation CSF [dated 4/01/2010] of the product referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act is acceptable. The basic CSF will be added to your file.

Submit one copy of the revised final printed label for the record. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records. If you have any questions, please contact Hope Johnson at 703-305-5410.



Jim Tompkins  
Product Manager 25  
Herbicide Branch  
Registration Division (7505P)

## MASTER LABEL FOR EPA REG. NO. 69361-

Registered Brand Names:  
TOPDOG 41% PLUS

## Master Label Table of Contents

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**\*\*See each label part for more detailed table of contents\*\***

15 musical staves, numbered 1 through 15, arranged in a grid. Each staff contains musical notation, including notes, rests, and bar lines, representing a musical score.

ACCEPTED  
with COMMENTS  
in EPA Letter Dated

JUL - 1 2010

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No.

69361-28

## 1 MAIN LABEL FOR FOOD CROP USES

### TOPDOG 41% PLUS Herbicide

Complete Directions for Use

EPA Reg. No. 69361-

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY® CROPS), DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

Herbicide for Roundup Ready Crops

Selective broad-spectrum weed control in Roundup Ready crops

Non-selective, broad-spectrum weed control for many agricultural systems and farmsteads A

member of the Roundup Family of Agricultural Herbicides by Monsanto

The President's Green Chemistry Award was presented in 1996 to Monsanto for its innovative "zerowaste" process in the manufacture of Roundup Herbicide.

Not all products listed on this label are registered for use in California. Check the registration status of each product in California before using.

Read the entire label before using this product.

Use only according to label instructions.

Read the "LIMIT OF WARRANTY AND LIABILITY" statement at the end of the label before buying or using. If terms are not acceptable, return at once unopened.

THIS IS AN END-USE PRODUCT. REPAR CORPORATION DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION. SEE INDIVIDUAL CONTAINER LABEL FOR REPACKAGING LIMITATIONS.

[Optional Container Label Statement: THIS IS AN END-USE PRODUCT. REPAR CORPORATION DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION. REPACKAGING OF THIS PRODUCT FOR DISTRIBUTION OR SALE MAY BE CONDUCTED ONLY UNDER THE TERMS OF A WRITTEN CONTRACT WITH REPAR CORPORATION.]

[Optional Container Label Statement: THIS IS AN END-USE PRODUCT. REPAR CORPORATION DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION OR REPACKAGING.]

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## 1.0 INGREDIENTS

### ACTIVE INGREDIENT:

\*Glyphosate, N-(phosphonomethyl)glycine, in the form of its isopropylamine salt ... 41.0%

OTHER INGREDIENTS: ... 59.0%

100.0%

\*Contains 480 grams per liter or 4 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its isopropylamine salt. Equivalent to 356 grams per liter or 3 pounds per U.S. gallon of the acid, glyphosate.

## 2.0 IMPORTANT PHONE NUMBERS

1. FOR PRODUCT INFORMATION OR ASSISTANCE IN USING THIS PRODUCT, CALL TOLL-FREE,

[1-301-562-7330]

2. IN CASE OF AN EMERGENCY INVOLVING THIS HERBICIDE PRODUCT, OR FOR MEDICAL ASSISTANCE, CALL COLLECT, DAY OR NIGHT,

[1-800-858-7378]

### 3.0 PRECAUTIONARY STATEMENTS

#### 3.1 Hazards to Humans and Domestic Animals

Keep out of reach of children

## WARNING! AVISO!

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail)

CAUSES SUBSTANTIAL BUT TEMPORARY EYE INJURY

HARMFUL IF SWALLOWED OR INHALED

Do not get in eyes or on clothing

Avoid breathing vapor or spray mist

FIRST AID	Call a poison control center or doctor for treatment advice
IF IN EYES	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes</li><li>• Remove contact lenses if present after the first 5 minutes then continue rinsing eye.</li></ul>
IF INHALED	<ul style="list-style-type: none"><li>• Move person to fresh air.</li><li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li></ul>
IF SWALLOWED	<ul style="list-style-type: none"><li>• Have person sip a glass of water if able to swallow.</li><li>• Do not induce vomiting unless told to by a poison control center or doctor.</li><li>• Do not give anything to an unconscious person.</li></ul>
<ul style="list-style-type: none"><li>• Have the product container or label with you when calling a poison control center or doctor, or going for treatment.</li><li>• You may also contact 1-800-858-7378, collect day or night, for emergency medical treatment information.</li><li>• This product is identified as TOPDOG 41% Plus, EPA Registration No. 69361-</li></ul>	

**DOMESTIC ANIMALS:** This product is considered to be relatively nontoxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

#### Personal Protective Equipment (PPE)

Applicators and other handlers must wear: long-sleeved shirt and long pants, shoes plus socks, and protective eyewear. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

#### User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

- Remove clothing immediately if pesticide gets inside.
- Then wash thoroughly and put on clean clothing.

### 3.2 Environmental Hazards

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

### 3.3 Physical or Chemical Hazards

Spray solutions of this product may be mixed, stored and applied using only stainless steel, fiberglass, plastic or plastic-lined steel containers.

DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. This product can only be used in accordance with the Directions for Use on this label or in separately published supplemental labeling. Supplemental labeling can be found on the Internet at [www.agrian.com](http://www.agrian.com), [www.cdms.net](http://www.cdms.net), or [www.greenbook.net](http://www.greenbook.net), or obtained from your Authorized REPAR CORPORATION retailer or REPAR CORPORATION representative.

[The following paragraph is reserved and will only appear on final printed labeling for products under this registration if and when required by EPA:

**ENDANGERED SPECIES PROTECTION REQUIREMENTS:** This product may have effects on federally listed threatened or endangered species or their critical habitat in some locations. When using this product, you must follow the measures contained in the Endangered Species Protection Bulletin for the county or parish in which you are applying the pesticide. To determine whether your county or parish has a Bulletin, and to obtain that Bulletin, consult <http://www.epa.gov/espp/>, or call 1-800-447-3813 no more than 6 months before using this product. Applicators must use Bulletins that are in effect in the month in which the pesticide will be applied. New Bulletins will generally be available from the above sources 6 months prior to their effective dates.]

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.

### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: coveralls, chemical resistant gloves greater than 14 mils in thickness composed of materials such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber, shoes plus socks and protective eyewear.

#### Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is

used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Keep people and pets off treated areas until spray solution has dried.

#### 4.0 STORAGE AND DISPOSAL

Proper pesticide storage and disposal are essential to protect against exposure to people and the environment due to leaks and spills, excess product or waste, and vandalism. Do not allow this product to contaminate water, foodstuffs, feed or seed by storage and disposal.

**PESTICIDE STORAGE:** Store pesticides away from food, pet food, feed, seed, fertilizers, and veterinary supplies. Keep container closed to prevent spills and contamination.

**PESTICIDE DISPOSAL:** To avoid wastes, use all material in this container, including rinsate, by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program. Such programs are often run by state or local governments or by industry. All disposal must be in accordance with applicable federal, state and local regulations and procedures.

[Alternate PESTICIDE DISPOSAL statement for transport vehicles only: To avoid wastes, empty as much product from this transport vehicle as possible for repackaging or use in accordance with label directions. If wastes cannot be avoided, offer remaining product or rinsate to a waste disposal facility or pesticide disposal program. All disposal must be in accordance with applicable federal, state and local regulations and procedures.]

**CONTAINER HANDLING AND DISPOSAL:** See container label for container handling and disposal instructions and refilling limitations.

[CONTAINER HANDLING AND DISPOSAL STATEMENTS AND REFILLING LIMITATIONS FOR CONTAINER LABELS:]

[CONTAINER HANDLING AND DISPOSAL STATEMENT AND REFILLING LIMITATION FOR NONREFILLABLE RIGID CONTAINERS OF LESS THAN 1-GALLON CAPACITY]

Nonrefillable container. Do not reuse or refill this container.

[Alternate container statement: Nonrefillable container. Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state.]

Triple rinse this container promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Then offer this container for recycling, if available. If recycling is not available, dispose of in accordance with federal, state and local regulations and procedures, which may include puncturing the properly rinsed container and disposing in a sanitary landfill.

[Alternate container disposal statement: Once properly rinsed, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. [Optional container disposal statement: To find the nearest site, contact your chemical dealer or [REPAR CORPORATION] at [1-301-562-7330] If recycling is not available, dispose of in accordance with federal, state and local regulations and procedures, which may include puncturing the properly rinsed container and disposing in a sanitary landfill.]



[Optional container statement: This container is not to be sold to homeowners for residential use.]

[CONTAINER HANDLING AND DISPOSAL STATEMENT AND REFILLING LIMITATION FOR PLASTIC ONE-WAYNONREFILLABLE RIGID PLASTIC 2.5-GALLON CONTAINERS AND BOTTLES OTHER CONTAINERS OF GREATER THAN 1-GALLON BUT EQUAL TO OR LESS THAN 5-GALLON CAPACITY]

Nonrefillable container. Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state.

[Alternate container statement: Nonrefillable container. Do not reuse or refill this container.]

Triple rinse or pressure rinse (or equivalent) this container promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Once properly rinsed, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. [Optional container disposal statement: To find the nearest site, contact your chemical dealer or REPAR CORPORATION at [INSERT PHONE NUMBER].] If recycling is not available, dispose of in accordance with federal, state and local regulations and procedures, which may include puncturing the properly rinsed container and disposing in a sanitary landfill.

[Alternate container disposal statement: Then offer this container for recycling, if available. If recycling is not available, dispose of in accordance with federal, state and local regulations and procedures, which may include puncturing the properly rinsed container and disposing in a sanitary landfill.]

[Optional container statement: This container is not to be sold to homeowners for residential use.]

[CONTAINER HANDLING AND DISPOSAL STATEMENT AND REFILLING LIMITATION FOR NONREFILLABLE RIGID PLASTIC 30-GALLON CONTAINERS AND OTHER CONTAINERS OF GREATER THAN 5-GALLON CAPACITY]

Nonrefillable container. Do not reuse or refill this container.

[Alternate container statement: Nonrefillable container. Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state.]

Triple rinse or pressure rinse (or equivalent) this container promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10

seconds after the flow begins to drip.

Once properly rinsed, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. [Optional container disposal statement: To find the nearest site, contact your chemical dealer or REPAR CORPORATION at [INSERT PHONE NUMBER].] If recycling is not available, dispose of in accordance with federal, state and local regulations and procedures, which may include puncturing the properly rinsed container and disposing in a sanitary landfill.

[Alternate container disposal statement: Then offer this container for recycling, if available. If recycling is not available, dispose of in accordance with federal, state and local regulations and procedures, which may include puncturing the properly rinsed container and disposing in a sanitary landfill.]

[Optional container disposal statement: Return Properly Rinsed Container to Monsanto for Recycling Contact: 1-800-ROUNDUP (1-800-768-6387)]

#### [CONTAINER HANDLING AND DISPOSAL STATEMENT AND REFILLING LIMITATION FOR ALL REFILLABLE CONTAINERS EXCEPT TRANSPORT CONTAINERS:]

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose.

Cleaning this container before refilling is the responsibility of the refiller. Cleaning this container before final disposal is the responsibility of the person disposing of the container.

To clean this container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer this container for recycling, if available.

[Optional container disposal statement: To obtain information about recycling refillable containers, contact REPAR CORPORATION at [INSERT PHONE NUMBER].]

[Optional container disposal statement: Return Properly Rinsed Container to Monsanto for Recycling, Contact 1-800-ROUNDUP (1-800-768-6387)]

#### [CONTAINER HANDLING AND DISPOSAL STATEMENT FOR ALL TRANSPORT CONTAINERS AS DEFINED IN 40 CFR 156.3]

Emptied container retains vapor and product residue. Observe all precautions stated on this label until the container is cleaned, reconditioned or destroyed. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, and worn-out threads and closures. Clean thoroughly before reuse for transportation of a material of different composition or before retiring this transport vehicle from service.

## 5.0 PRODUCT INFORMATION

**Product Description:** This product is a postemergence, systemic herbicide with no soil residual activity. It is generally non-selective and gives broad-spectrum control of many annual weeds, perennial weeds, woody brush and trees. It is formulated as a water-soluble liquid and can be applied using most standard industrial or field sprayers after dilution and thorough mixing with water or other carriers according to label directions.

**Time to Symptoms:** This product moves through the plant from the point of foliage contact to and into the root system. Visible effects are a gradual wilting and yellowing of the plant that advances to complete browning of above ground growth and deterioration of underground plant parts. Effects are visible on most annual weeds within 2 to 4 days, but on most perennial weeds, effects may not be visible for 7 or more days. Extremely cool or cloudy weather following treatment may slow activity of this product and delay development of visual symptoms.

**Stage of Weeds:** Annual weeds are easiest to control when they are small. Best control of most perennial weeds is obtained when treatment is made at late growth stages approaching maturity. Refer to the "ANNUAL WEEDS RATE SECTION", "PERENNIAL WEEDS RATE SECTION" and "WOODY BRUSH AND TREES RATE SECTION" for more information on specific weeds.

Always use the higher product application rate within the given range when weed growth is heavy or dense or when weeds are growing in an undisturbed (non-cultivated) area.

Reduced weed control may result when treating weeds with disease or insect damage, weeds heavily covered with dust, or weeds under poor growing conditions.

**Cultural Considerations:** Reduced control may result when application is made to annual or perennial weeds that have been mowed, grazed, or cut, and have not been allowed to re-grow to the specified stage for treatment.

**Rainfastness:** Heavy rainfall soon after application may wash this product off of the foliage and a repeat application may be required for adequate weed control.

**Spray Coverage:** For best results, spray coverage must be uniform and complete. Do not spray foliage to the point of runoff.

**Mode of Action:** The active ingredient in this product inhibits an enzyme found only in plants and microorganisms that is essential to the formation of specific amino acids.

**No Soil Activity:** Weeds must be emerged at the time of application to be controlled by this product. Weeds germinating from seed after application will not be controlled. Plants arising from unattached underground rhizomes or root stocks of perennials that had not yet emerged at the time of application of this product will not be affected and will continue to grow.

**Biological Degradation:** Degradation of this product is primarily a biological process carried out by soil microbes.

**Maximum Application Rates:** The maximum application or use rates stated throughout this product's labeling are given in units of volume (fluid ounces, pints, or quarts) of this product per acre. However, the maximum allowed application rates apply to this product combined with the use of any and all other herbicides containing the active ingredient glyphosate, whether applied separately or as tank mixtures, on a basis of total pounds of glyphosate (acid equivalents) per acre. If more than one glyphosate-containing product is applied to the same site within the same year, you must ensure that the total use of glyphosate does not exceed the maximum allowed. See the "INGREDIENTS" section of this label for necessary product information.

Except as otherwise specified in a crop section of this label, the combined total of all treatments must not exceed 8 quarts of this product (6 pounds of glyphosate acid) per acre per year. For applications in non-crop sites or in tree, vine, or shrub crops, the combined total of all treatments must not exceed 10.6 quarts of this product (8 pounds of glyphosate acid) per acre per year.

**NOTE:** Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or have other unintended consequences.

## 6.0 WEED RESISTANCE MANAGEMENT

GROUP	9	HERBICIDE
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Glyphosate, the active ingredient in this product, is a Group 9 herbicide based on the mode of action classification system of the Weed Science Society of America. Any weed population may contain plants naturally resistant to Group 9 herbicides. Weed species resistant to Group 9 herbicides may be effectively managed utilizing another herbicide from a different Group or by using other cultural or mechanical practices.

### 6.1 Weed Management Practices

To minimize the occurrence of glyphosate-resistant biotypes observe the following weed management practices:

- Scout your fields before and after herbicide application.
- Start with a clean field, using either a burndown herbicide application or tillage.
- Control weeds early when they are relatively small.
- Add other herbicides (e.g. a selective and/or a residual herbicide) and cultural practices (e.g. tillage or crop rotation) where appropriate.

- One method for adding other herbicides into a continuous Roundup Ready system is to rotate to other Roundup Ready crops.
- Use the application rate for the most difficult to control weed in your field. Avoid tank mixtures with other herbicides that reduce the efficacy of this product (through antagonism), or with ones that encourage application rates of this product below those specified on this label.
- Control weed escapes and prevent weeds from setting seeds.
- Clean equipment before moving from field to field to minimize the spread of weed seed or plant parts.
- Use new commercial seed that is as free of weed seed as possible.

Report any incidence of repeated non-performance of this product on a particular weed to your REPAR CORPORATION representative, local retailer, or county extension agent.

## 6.2 Management of Glyphosate-Resistant Biotypes

Note: Appropriate testing is critical in order to determine if a weed is resistant to glyphosate. Contact your REPAR CORPORATION representative to determine if resistance in any particular weed biotype has been confirmed in your area, or you can visit on the Internet [www.weedresistancemanagement.com](http://www.weedresistancemanagement.com) or [www.weedscience.org](http://www.weedscience.org). For more information see the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label.

[Alternative text: Note: Appropriate testing is critical in order to determine if a weed is resistant to glyphosate. Call 1-800-ROUNDUP (1-800-768-6387) or contact your Monsanto representative to determine if resistance in any particular weed biotype has been confirmed in your area, or visit on the Internet [www.weedresistancemanagement.com](http://www.weedresistancemanagement.com) or [www.weedscience.org](http://www.weedscience.org). For more information see the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label.]

Directions for the control of biotypes confirmed to be resistant to glyphosate are made available on separately published supplemental labeling or Fact Sheets for this product and can be obtained from your local retailer or REPAR CORPORATION representative.

Since the occurrence of new glyphosate-resistant weeds cannot be determined until after product use and scientific confirmation, REPAR CORPORATION is not responsible for any losses that may result from the failure of this product to control glyphosate-resistant weed biotypes.

The following good agronomic practices can reduce the spread of confirmed glyphosate-resistant biotypes:

- If a naturally occurring resistant biotype is present in your field, this product can be tank-mixed or applied sequentially with an appropriately labeled herbicide with a different mode of action to achieve control.
- Cultural and mechanical control practices (e.g. crop rotation or tillage) can also be used as appropriate.
- One method for adding other herbicides into a continuous Roundup Ready system is to rotate to other Roundup Ready crops.
- Scout treated fields after herbicide application and control weed escapes, including resistant biotypes, before they set seed.
- Thoroughly clean equipment before leaving fields known to contain resistant biotypes.

## 7.0 MIXING

Spray solutions of this product may be mixed, stored and applied using only clean stainless steel, fiberglass, plastic or plastic-lined steel containers.

DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS.

Eliminate any risk of siphoning the contents of the tank back into the carrier source while mixing. Use



approved anti-back-siphoning devices where required by State or local regulations.

Clean sprayer parts promptly after using this product by thoroughly flushing with water.

PRODUCT PERFORMANCE MAY BE SIGNIFICANTLY REDUCED IF WATER CONTAINING SOIL SEDIMENT IS USED AS CARRIER. DO NOT MIX THIS PRODUCT WITH WATER FROM PONDS AND DITCHES THAT IS VISIBLY MUDDY OR MURKY.

### 7.1 Mixing with Water

This product mixes readily with water. Mix spray solutions of this product as follows.

Begin filling the mixing tank or spray tank with clean water. Add the required amount of this product near the end of the filling process and mix gently. Use caution to avoid siphoning back into the carrier source. During mixing, foaming of the spray solution may occur. To prevent or minimize foaming, mix gently, terminate by-pass and return lines at the bottom of the tank, and, if necessary, use an anti-foam or defoaming agent.

### 7.2 Tank Mixtures

This product does not provide residual weed control. This product may be tank-mixed with other herbicides to provide residual weed control, a broader weed control spectrum or an alternate mode of action. Read and follow all label directions of all products in the tank mixture.

Some tank-mix products have the potential to cause crop injury under certain conditions, at certain growth stages and/or under other circumstances. Read the label for all products used in the tank mixture prior to use to determine the potential for crop injury.

Tank mixtures with other herbicides, insecticides, fungicides, micronutrients or foliar fertilizers could result in reduced weed control or crop injury. Buyer and all users are responsible for any and all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not expressly specified on this label, or in separate supplemental labeling or Fact Sheets published for this product.

When a tank mixture with a generic active ingredient, such as 2,4-D, atrazine, dicamba, diuron or pendimethalin is described on this label, the user is responsible for ensuring that the specific application being made is included on the label of the specific product being used in the tank-mix.

Refer to all individual product labels, supplemental labeling and Fact Sheets for all products in the tank mixture, and observe all precautions and limitations on the label, including application timing restrictions, soil restrictions, minimum re-cropping interval and rotational guidelines. Use according to the most restrictive precautionary statements for each product in the tank mixture.

Always predetermine the compatibility of all tank-mix products together in the carrier by mixing small proportional quantities in advance.

For best results, apply tank mixtures with this product at a minimum spray volume rate of 10 gallons per acre.

### 7.3 Tank-Mixing Procedure

Prepare tank mixtures of this product as follows:

1. Place a 20- to 35-mesh screen or wetting basket over the filling port of the tank.
2. Through the screen, fill the tank one-half full with water and start gentle agitation.
3. If ammonium sulfate is to be used, add it slowly through the screen into the tank, and continue adding water into the tank through the screen. If dry ammonium sulfate is being used, ensure that it is completely dissolved in the tank before adding other products.
4. If a wettable powder is used, prepare a slurry of it with water, and add it SLOWLY through the screen into the tank while continuing gentle agitation.
5. If a flowable formulation is used, premix one part flowable with one part water, and add the diluted mixture SLOWLY through the screen into the tank while continuing gentle agitation.

6. If an emulsifiable concentrate formulation is used, premix one part emulsifiable concentrate with two parts water and add the diluted mixture SLOWLY through the screen into the tank while continuing gentle agitation.
7. Continue filling the tank with water through the screen and add the required amount of this product near the end of the filling process.
8. If a nonionic surfactant is used, add it to the tank before completing the filling process.
9. Add individual formulations to the spray tank as follows: wettable powders, flowable, emulsifiable concentrates, drift control additives, water-soluble liquids (this product), surfactants.

Maintain gentle agitation at all times until the contents of the tank are sprayed out. If the spray mixture is allowed to settle, thorough agitation is required to re-suspend the mixture before spraying.

Keep by-pass and return lines on or near the bottom of the tank to minimize foaming. Screen size in nozzle or line strainers can be no finer than 50 mesh.

#### 7.4 Mixing for Hand-Held Sprayers

Prepare the desired spray volume by mixing the amount of this product as indicated in the following table in water:

Desired Volume	Amount of TOPDOG 41% PLUS					
	0.5%	1 %	1.5%	2%	5%	10%
1 gal	0.7 oz	1.3 oz	2 oz	2.7 oz	6.5 oz	13 oz
25 gal	1 pt	1 qt	1.5 qt	2qt	5qt	10 qt
100 gal	2 qt	1 gal	1.5 gal	2 gal	5 gal	10 gal

2 tablespoons = 1 fluid ounce

For use in backpack sprayers, consider mixing the appropriate amount of this product with water in a larger container and then filling the sprayer from the larger container.

#### 7.5 Surfactants

Nonionic surfactants (NIS) or wetting agents that have at least 70 percent active ingredient and are labeled for use with herbicides may be added to the spray solution, unless otherwise directed. Do not reduce rates of this herbicide when adding surfactants. Read and carefully observe all caution statements and other information appearing on the surfactant label.

#### 7.6 Ammonium Sulfate

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water may increase the performance of this product on annual and perennial weeds, particularly under hard water conditions, drought conditions or when tank-mixed with certain residual herbicides. An equivalent rate of a liquid formulation of ammonium sulfate may also be used. Ensure that dry ammonium sulfate is completely dissolved in the spray tank before adding herbicides. Thoroughly rinse the spray system with clean water promptly after use to reduce corrosion.

NOTE: When using ammonium sulfate, apply this product at rates specified on this label. Lower rates will result in reduced performance.

#### 7.7 Colorants or Dyes

Colorants or marking dyes may be added to spray solutions of this product; however, they can reduce performance. Use colorants or dyes according to the manufacturer's directions.

#### 7.8 Drift Reduction Additives

Drift reduction additives may be used with all equipment types, except wiper applicators, sponge bars and Controlled Droplet Applicators. When a drift reduction additive is used, read and carefully observe all

precautions, limitations, and all other information on the additive label. Use of drift reduction additives can affect spray coverage, which can reduce product performance.

## 8.0 APPLICATION EQUIPMENT AND TECHNIQUES

Do not apply this product through any type of irrigation system.

This product may be applied with the following application equipment:

Aerial - Fixed wing and helicopter

Ground Broadcast Spray - Boom or boomless systems, pull-type sprayers, floaters, pick-up sprayers, spray coupes and other ground broadcast equipment

Hand-Held or Backpack Spray Equipment - Backpack sprayers, pump-up pressure sprayers, handguns, handwands, mistblowers\*, lances and other hand-held and motorized spray equipment used to direct the spray onto weed foliage

\* This product is not registered in California or Arizona for use in mistblowers.

Selective Equipment - Shielded and hooded sprayers, wiper applicators and sponge bars

Injection Systems - Aerial or ground injection sprayers Controlled Droplet Applicator

(CDA) - Hand-held or boom-mounted applicators that produce a spray consisting of a narrow range of droplet sizes

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING THE DESIRED VOLUMES.

### 8.1 Aerial Equipment

All treatments described on this label may be made using aerial application equipment where appropriate, provided that the applicator complies with the precautions and restrictions specified on this label and in separate supplemental labeling published for this product.

DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDITIONS SPECIFIED ON THIS LABEL.

Apply this herbicide at the appropriate rate as described on this label in 3 to 15 gallons of water per acre unless otherwise directed on this label or in separate supplemental labeling of Fact Sheets published for this product. Unless otherwise specified, do not exceed 2 quarts of this product per acre when using aerial application equipment. Refer to the individual use area sections of this label for application rates, spray volumes and additional use instructions.

FOR AERIAL APPLICATION IN ARKANSAS OR CALIFORNIA, OR SPECIFIC COUNTIES THEREIN, REFER TO THE FEDERAL SUPPLEMENTAL LABELING FOR AERIAL APPLICATION OF THIS PRODUCT IN THAT STATE OR COUNTY FOR SPECIFIC INSTRUCTIONS, RESTRICTIONS AND REQUIREMENTS.

This product, when tank-mixed with dicamba, may not be applied by air in California.

Only 2,4-D amine formulations may be used with aerial application in California. Tank mixtures of this product with 2,4-D amine formulations may be applied by air in California for fallow and reduced tillage systems and for alfalfa and pasture renovation applications only.

Ensure uniform application. To avoid streaked, uneven or overlapped application, use appropriate marking devices.

Do not allow the herbicide solution to mist, drip, drift, or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended.

### AERIAL SPRAY DRIFT MANAGEMENT

The following drift management requirements must be followed to avoid off-target movement during aerial application to agricultural field crops.

1. The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.

2. Nozzles must always point backward, parallel with the air stream and never be pointed downwards more than 45 degrees. Comply with all State regulations where applicable.

#### Importance of Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (read the following sections on "Wind", "Temperature and Humidity", and "Temperature Inversions").

#### Controlling Droplet Size

- Volume: Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with the higher rated flows produce larger droplets.
- Pressure: Use the lower spray pressures listed for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, use higher flow rate nozzles instead of increasing spray pressure.
- Number of nozzles: Use the minimum number of nozzles that will provide uniform coverage.
- Nozzle orientation: Orienting nozzles so that the spray is released backwards, parallel to the airstream, will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- Nozzle type: Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.
- Boom length: For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.
- Application height: Applications must not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces the exposure of the droplets to evaporation and wind.

#### Swath Adjustment

When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Increase the swath adjustment distance with increasing drift potential (higher wind speed, smaller droplets, etc.).

#### Wind

Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given wind speed. Application must be avoided when wind speeds are below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator must be familiar with local wind patterns and how they affect drift.

#### Temperature and Humidity

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

#### Temperature Inversions

Applications must not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, the movement of smoke produced by a ground source or an aircraft smoke generator can also identify temperature inversions. Smoke that layers and moves laterally in a concentrated cloud (under low



wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

#### Sensitive Areas

Apply this product only when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

Avoid direct application to any body of water.

#### Aircraft Maintenance

Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of this product accumulated during spraying or from spills. PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. LANDING GEAR IS MOST SUSCEPTIBLE. Maintaining an organic coating (paint) that meets aerospace specification MIL-C-38413 may help prevent corrosion.

### 8.2 Ground Broadcast Equipment

Apply this product at the appropriate rate in 3 to 40 gallons of water per acre when making a broadcast application using ground application equipment unless otherwise directed on this label or on supplemental labeling or Fact Sheets for this product. As the weed density increases, increase the spray volume towards the upper end of this range to ensure complete coverage. Carefully select proper nozzles to avoid generating a fine mist. For best results with ground application equipment, use flat spray nozzles. Check spray pattern for uniform distribution.

### 8.3 Hand-Held or Backpack Equipment

Apply to foliage of vegetation to be controlled. For best results, spray coverage must be uniform and complete. Use coarse sprays only. For applications made on a spray-to-wet basis, do not spray to the point of run-off. For appropriate spray concentrations and timing, refer to the "ANNUAL WEEDS-HAND-HELD OR BACKPACK EQUIPMENT" section of this product label.

### 8.4 Selective Equipment

This product may be diluted in water and applied using a shielded sprayer, hooded sprayer, wiper applicator or sponge bar to weeds listed on this label growing in any non-crop site listed on this label.

In cropping systems, a shielded sprayer, hooded sprayer, or wiper applicator may be used in-between rows of crop plants (row middles). A wiper applicator may be used over the top of crops only when specifically directed on this label. Selective equipment must be capable of preventing all contact of the herbicide solution with the crop and operated without spray-mist escape, leakage, or dripping of the herbicide solution onto the crop.

#### AVOID CONTACT OF THIS HERBICIDE WITH DESIRABLE VEGETATION.

Contact of this product with desirable vegetation may result in unwanted plant damage or destruction.

Crop injury may occur when the foliage of treated weeds comes into contact with leaves of the crop. Do not apply this product when crop leaves are growing in direct contact with weeds to be treated. Droplets, mist, foam or splatter of the herbicide solution settling onto desirable vegetation may result in discoloration, stunting or destruction.

Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations or when the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatment may be necessary.

#### Shielded and Hooded Sprayers

This product, when applied at rates specified on this label using a shielded or hooded sprayer according to the directions described in this section, will control those weeds listed in the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label.

A hooded sprayer is a type of shielded sprayer where the spray pattern is fully enclosed, including the top, sides, front and back, thereby shielding the crop from the spray solution. Adjust the shields on these sprayers to protect desirable vegetation. When applying around crops grown on raised beds, ensure that the hood is capable of completely enclosing the spray pattern. If necessary, extend the front and rear flaps of the hooded sprayer downward to reach the ground in deep furrows. USE EXTREME CARE TO AVOID CONTACT OF THIS HERBICIDE WITH DESIRABLE VEGETATION.

This equipment must be configured and operated in a manner that minimizes bouncing and avoids raising the hood up off the ground surface at any time. If the hood is raised, spray particles may escape and come into contact with the crop, causing damage or destruction of the crop. Avoid operating this equipment on rough or sloping terrain where the spray hood might be raised up off the ground surface.

Use hoods designed to minimize excessive dripping or run-off down the inside of the hood, such as a single, low pressure, low-drift, flat-fan nozzle with an 80 to 95 degree spray angle positioned at the top center of the hood, with a spray volume of 20-30 gallons per acre.

The following procedures can reduce the potential for crop injury when using a hooded sprayer:

- Spray hood must be operated on the ground or skimming across the ground surface.
- Leave at least an 8-inch untreated strip over the drill row. (For example, if the crop row width is 38 inches, make the maximum width of the spray hood 30 inches.)
- Operate at ground speeds of no greater than 5 miles per hour to avoid bouncing of the spray hood.
- Apply when wind speed is 10 miles per hour or less.
- Use low-drift nozzles that provide uniform coverage within the treated area.

Crop injury may occur when foliage of treated weeds comes into direct contact with leaves of the crop. Do not apply this product when leaves of the crop are growing in direct contact with weeds to be treated. Droplets, mist, foam or splatter of the herbicide solution settling onto desirable vegetation may result in discoloration, stunting or destruction.

#### Wiper Applicator

A wiper applicator is a device that physically wipes this product directly onto the weed. Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation.

Adjust the height of the wiper applicator to ensure adequate contact with weeds and so that the wiper contact point is at least 2 inches above the desirable vegetation. Better results can be obtained when more of the weed is exposed to the herbicide solution and weeds are a minimum of 6 inches above the desirable vegetation. Weeds not contacted by the herbicide solution will not be affected. Poor contact may occur when weeds are growing in dense clumps, in severe weed infestations or when weed height varies dramatically. In these situations, repeat treatments may be necessary.

Operate this equipment at a ground speed of no greater than 5 miles per hour. Performance may be improved by reducing speed in areas of heavy weed infestations to provide adequate wiper saturation with the herbicide solution. Better results may be obtained when two applications are made in opposite directions.

Droplets, mist, foam or splatter of the herbicide solution settling onto desirable vegetation may result in discoloration, stunting or destruction. Avoid leakage or dripping onto desirable vegetation. Keep wiping surfaces clean. Be aware that on sloping ground the herbicide solution may migrate, causing dripping on the lower end and drying of the wicks on the upper end of the wiper applicator.

Do not use wiper applicator when weeds are wet.

Mix only the amount of this product to be used during a 1-day period, as reduced product performance may result from use of solutions held in storage. Clean wiper parts promptly by thoroughly flushing with water.

Do not add surfactant to the herbicide solution when using a wiper applicator.

For Rope or Sponge Wick Applicator - use solutions ranging from 33 to 75 percent of this product in water.

For Panel Applicator - use solutions ranging from 33 to 100 percent of this product in water.

## 8.5 Injection Systems

This product may be used in aerial or ground injection spray systems. It may be used as a liquid concentrate or diluted prior to injecting into the spray stream. Do not mix this product with the concentrate of other products for use in injection systems.

## 8.6 Controlled Droplet Applicator (CDA)

The amount of this product applied per acre using a vehicle-mounted controlled droplet applicator (CDA) must be no less than the amount specified on this label for application using conventional broadcast application equipment. Apply the appropriate amount of this product in 2 to 15 gallons of water per acre when using a vehicle-mounted CDA.

For control of annual weeds using a hand-held CDA, apply a 20-percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 1.5 miles per hour (1 quart per acre). For the control of perennial weeds, apply a 20 to 40-percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 0.75 miles per hour (2 to 4 quarts per acre).

Controlled droplet applicators produce a spray pattern that is not easily visible. Extreme care must be taken to avoid spray or drift onto the foliage or any other green tissue of desirable vegetation, as damage or destruction of the plant may result.

## 9.0 ANNUAL AND PERENNIAL CROPS

**NOTE: THIS SECTION GIVES DIRECTIONS THAT APPLY TO ALL CROPS LISTED ALPHABETICALLY IN THE SECTIONS THAT FOLLOW. SEE THE INDIVIDUAL CROP SECTIONS FOR SPECIFIC INSTRUCTIONS, PREHARVEST INTERVALS, AND ADDITIONAL PRECAUTIONS AND RESTRICTIONS.**

See the "ROUNDUP READY CROPS" section of this label, or separately published supplemental labeling for this product for instructions on application in Roundup Ready crops.

**TYPES OF APPLICATION:** Chemical Fallow, Preplant Fallow Beds, Preplant, At-Planting, Preemergence, Hooded Sprayer in Row-Middles, Shielded Sprayer in Row-Middles, Wiper Applicator in Row-Middles, Post-Harvest

**USE INSTRUCTIONS:** Apply this product during fallow intervals preceding planting, prior to planting or transplanting, at-planting, or preemergence to annual and perennial crops listed on this label, except where specifically limited. For any crop not listed on this label, application must be made at least 30 days prior to planting. Unless otherwise specified, apply this product according to the rates listed in the "ANNUAL WEEDS RATE SECTION", "PERENNIAL WEEDS RATE SECTION", and "WOODY BRUSH AND TREES RATE SECTION" of this label. Application rates specified on this label for the control of tough weeds, or those specified on separate supplemental labeling for this product, supersede the rates in the "ANNUAL WEEDS RATE SECTION", "PERENNIAL WEEDS RATE SECTION" and "WOODY BRUSH AND TREES RATE SECTION" of this label. Additional information on the control of tough weeds can be found in Fact Sheets for this product.

Repeat applications may be made up to a maximum of 8 quarts of this product per acre per year.

Hooded sprayers and wiper applicators capable of preventing all crop contact with the herbicide solution may be used in mulched or unmulched row middles after crop establishment. Wiper applicators may be used over the top of crops to control tall weeds only when specifically directed in the individual crop sections that follow. Refer to the "SELECTIVE EQUIPMENT" section of this label for essential precautions regarding crop injury. Crop injury is possible with these types of application, and shall be the sole responsibility of the applicator.

All treatments described in the sections that follow may be made using aerial application equipment where appropriate, provided that the applicator complies with the precautions and restrictions specified on this label and on all supplemental labeling published separately for this product. See the

"APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional information on aerial application and procedures on avoiding spray drift that may cause injury to any vegetation not intended for treatment. Use of appropriate buffer zones will help prevent injury to adjacent vegetation.

**TANK MIXTURES:** This product may be tank-mixed with other herbicides to provide residual weed control, a broader weed control spectrum or an alternate mode of action. Always read and follow label directions for all products in the tank mixture. Use all products according to rates and timing specified on the label. Some tank-mix products have the potential to cause crop injury. Read all labels for products used in the tank mixture prior to use to determine the potential for crop injury. Always predetermine the compatibility of tank-mix products together in the carrier by mixing small proportional quantities in advance. A tank mixture of this product with other herbicides may cause incompatibility, antagonism, or a reduction in product efficacy. REPAR CORPORATION has not tested all tank-mix product formulations for compatibility, antagonism or performance. Buyer and all users are responsible for any and all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not specifically identified on this labeling, or in separate supplemental labeling or Fact Sheets for this product. See the "MIXING" section of this label for more information on tank mixtures.

**PRECAUTIONS, RESTRICTIONS:** Avoid contact of this herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops, as severe crop injury or destruction may result. When making at-planting and preemergence applications, application must be made before crop emergence to avoid severe crop injury. Broadcast application made at emergence will result in injury or death of emerged seedlings. Apply before seed germination in coarse sandy soils to further minimize the risk of injury. Unless otherwise specified on this label, treatment with selective equipment, including wiper applicators and hooded sprayers, must be made at least 14 days prior to harvest. Post-harvest or fallow application must be made at least 30 days prior to planting any crops not listed on this label. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional information.

In crops where spot treatment is allowed, do not treat more than 10 percent of the total field to be harvested. Crop sprayed in treated area will be killed. Take care not to spray or allow spray to drift outside the target area in order to avoid unwanted crop destruction.

Do not harvest or feed treated vegetation for 8 weeks following broadcast postemergence application, unless otherwise specified.

Observe the maximum application rates stated throughout this label. Maximum application rates apply to the use of this product combined with the use of any and all other herbicides containing glyphosate as the active ingredient, whether applied separately or as mixtures. Calculate the application rates (glyphosate acid equivalents) and ensure that the total use of this and other glyphosate-containing products does not exceed the stated maximum rate. See the "PRODUCT INFORMATION" section of this label for more information on Maximum Application Rates.

## 9.1 Cereal and Grain Crops

**LABELED CROPS:** Barley, Buckwheat, Millet (pearl, proso), Oats, Rice, Rye, Quinoa, Teff, Teosinte, Triticale, Wheat (all types), Wild rice

**TYPES OF APPLICATION:** Those listed in Section 9.0 plus Red Rice Control Prior to Planting Rice, Spot Treatment (Except Rice), Wiper Applicator (Feed Barley and Wheat Only), Preharvest (Feed Barley and Wheat Only)

Preplant, At-Planting, Preemergence

**USE INSTRUCTIONS:** This product may be applied before, during or after planting of cereal crops, but prior to crop emergence.

**TANK MIXTURES:** In wheat, a tank-mix with Aim may be used.

Red Rice Control Prior to Planting Rice

**USE INSTRUCTIONS:** Apply 1.5 quarts of this product in 5 to 10 gallons of water per acre. Flush fields prior to application to obtain uniform germination and stand of red rice. Make application when the majority of the red rice plants are at the 2-leaf stage and no more than 4 inches tall. Red rice plants with less than 2 true leaves may be only partially controlled.

**PRECAUTIONS, RESTRICTIONS:** Avoid spraying during conditions of low humidity, as reduced control

may result. Do not treat rice fields or levees when the fields contain floodwater. Do not flood treated fields for 8 days following application.

#### Spot Treatment (Except Rice)

USE INSTRUCTIONS: This product may be applied as a spot treatment in cereal crops, except rice.

Apply this product before heading in small grains.

PRECAUTIONS, RESTRICTIONS: Do not treat more than 10 percent of the total field area to be harvested. Crop sprayed in treated area will be killed. Take care not to spray or to allow spray to drift outside target area in order to avoid unwanted crop destruction.

#### Wiper Applicator (Feed Barley and Wheat Only)

USE INSTRUCTIONS: This product may be applied over the top of feed barley and wheat using a wiper applicator. To control common rye or cereal rye, apply after the weeds have headed and achieved maximum growth. See additional instructions on the use of wiper applicators in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

PRECAUTIONS, RESTRICTIONS: Allow at least 35 days between application and harvest. Do not use roller applicators.

#### Preharvest (Feed Barley and Wheat Only)

USE INSTRUCTIONS: This product provides weed control when applied prior to harvest of feed barley or wheat. For feed barley, apply after the hard-dough stage when the grain contains 20 percent moisture or less. For wheat, apply after the hard-dough stage when the grain contains 30 percent moisture or less. Stubble may be grazed immediately after harvest.

For ground application, apply this product in 10 to 20 gallons of water per acre. For aerial application, apply this product in 3 to 10 gallons of water per acre.

PRECAUTIONS, RESTRICTIONS: Do not apply more than 1 quart of this product per acre. Allow 7 days between application and harvest or grazing. Preharvest application on barley or wheat grown for seed could result in a reduction in germination or vigor. Buyer and all users are responsible for any and all loss or damage in connection with the preharvest use of this product on barley or wheat grown for seed.

#### Post-Harvest

USE INSTRUCTIONS: This product may be applied for weed control after harvest of cereal crops. Higher rates may be required to control large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used. Ensure that the specific product being used is labeled for weed control following harvest of cereal crops. Read and follow label directions of all products in the tank mixture.

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation. Application must be made at least 30 days prior to planting any crop not listed on this label.

#### 9.2 Corn

TYPES OF CORN: Field corn, Popcorn, Seed corn, Silage corn, Sweet corn

TYPES OF APPLICATION: Those listed in Section 9.0 plus Spot Treatment, Preharvest

For use directions with corn hybrids with Roundup Ready 2 Technology (including Roundup Ready Corn 2 and products displaying the Roundup 2 Technology logo), see the "ROUNDUP READY CROPS" section of this label.

#### Preplant, At-Planting, Preemergence

USE INSTRUCTIONS: This product may be applied alone or in a tank-mix before, during or after planting corn, but prior to crop emergence.

TANK MIXTURES: This product may be tank-mixed with the following products to provide residual weed control, a broader weed control spectrum or an alternate mode of action. Ensure that the specific product

being used is labeled for application prior to the planting or emergence of corn. Read and follow label directions for all products in the tank mixture. Apply these tank mixtures in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre.

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[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use preplant, at-planting and/or preemergence to corn:

2,4-D, acetochlor, alachlor, atrazine, carfentrazone-ethyl, clopyralid, dicamba, diflufenzopyr, dimethenamid, dimethenamid-p, flufenacet, flumetsulam, flumiclorac pentyl ester, isoxaflutole, linuron, metolachlor, s-metolachlor, metribuzin, pendimethalin, simazine

Aim, Aim EC, Axiom, Balance, Balance PRO, Banvel, Bicep MAGNUM, Bicep II MAGNUM, Bicep Lite II Magnum, Bullet, Cinch, Cinch ATZ, Clarity, Define, Degree, Degree Xtra, Distinct, Dual MAGNUM, Dual II MAGNUM, Epic, Frontier, FullTime, Guardsman, Guardsman MAX, Harness, Harness Xtra, Harness Xtra 5.6L, Hornet, Keystone, Keystone LA, Lariat, Leadoff, Linex, Lorox, Marksman, Me-too-Lachlor II, Micro-Tech, Outlook, Prowl, Python, Python II, Radius, Resolve, Resource, Shark, Simazine, Stalwart, Stalwart C, Stalwart Xtra, Surpass, TopNotch]

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For tough-to-control annual weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 2 pints per acre in these tank mixtures. For other annual weeds listed on this label, apply 1.5 to 2 pints of this product per acre when weeds are less than 6 inches tall, and 2 to 3 pints per acre when weeds are over 6 inches tall. When using nitrogen solutions as the carrier, application rate may need to be increased for acceptable weed control.

**PRECAUTIONS, RESTRICTIONS:** Application of 2,4-D or dicamba must be made at least 7 days prior to planting corn. Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

In Southern states, do not apply this product in nitrogen solutions to tough-to-control grasses such as barnyardgrass, fall panicum, broadleaf signalgrass, annual ryegrass and any perennial weeds. This area includes Illinois and Indiana south of Route 50, Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, New Jersey, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia.

#### Hooded Sprayer

**USE INSTRUCTIONS:** This product may be applied using a hooded sprayer for weed control in-between rows of corn. Only hooded sprayers that completely enclose the spray pattern may be used. See additional instructions for the use of hooded sprayers in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Corn must be at least 12 inches tall, measured without extending leaves. Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator. Do not apply more than 1 quart of this product per acre for each hooded sprayer application and no more than 3 quarts per acre per year total.

#### Spot Treatment

**USE INSTRUCTIONS:** This product may be applied as a spot treatment prior to silking of corn.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. Crop sprayed in the treated area will be killed. Take care not to spray or to allow spray to drift outside target area to avoid unwanted crop destruction.

#### Preharvest

**USE INSTRUCTIONS:** Make application at 35 percent grain moisture or less. Ensure that maximum kernel fill is complete and the corn is physiologically mature (black layer formed). For ground application, apply up to 3 quarts of this product per acre. For aerial application, apply up to 2 quarts of this product per acre.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest. Preharvest application on corn grown for seed could result in a reduction in germination or vigor. Buyer and all users are responsible for any and all loss or damage in connection with the preharvest use of this product on corn grown for seed.

#### Post-Harvest

**USE INSTRUCTIONS:** This product may be applied for weed control after harvest of corn. Higher rates may be required to control large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used. Ensure that the specific product being used is labeled for post-harvest application in corn. Read and follow label directions of all products in the tank mixture.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation. Application of this product must be made at least 30 days prior to planting any crop not listed on this label. Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

#### 9.3 Cotton

**TYPES OF APPLICATION:** Those listed in Section 9.0 plus Selective Equipment, Spot Treatment, Preharvest

For use directions with Roundup Ready cotton and Roundup Ready Flex cotton, see the "ROUNDUP READY CROPS" section of this label.

#### Preplant, At-Planting, Preemergence

**USE INSTRUCTIONS:** This product may be applied before, during or after planting cotton, but prior to crop emergence.

**TANK MIXTURES:** This product may be tank-mixed with 2,4-D and Clarity and applied prior to planting only. This product may also be tank-mixed with the following products and applied prior to crop emergence. Ensure that the specific product being used is labeled for application prior to planting or the emergence of cotton. Read and follow label directions for all products used in the tank mixture. Apply these tank mixtures in 10 to 20 gallons of water per acre.

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[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use preplant, at-planting and/or preemergence to cotton:

2,4-D, clomazone, dicamba, diuron, flumioxazin, fluometuron, fomesafen, metolachlor, s-metolachlor, pendimethalin, norflurazon, prometryn, pyriithiobac-sodium

Caparol, Clarity, Command, Cotoran, Cotton-Pro, Direx, Dual MAGNUM, Dual II MAGNUM, Karmex, Meturon, PARRLAY, Prowl, Prowl H2O, Reflex, Staple, Stalwart, Valor, Zorial]

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**PRECAUTIONS, RESTRICTIONS:** Refer to individual tank-mix product labels for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the mixture.

#### Selective Equipment

**USE INSTRUCTIONS:** This product may be applied using a hooded sprayer, a shielded sprayer, or a wiper applicator over the top of cotton. See additional instructions on the use of this selective equipment in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Allow at least 7 days between application and harvest.

#### Spot Treatment

**USE INSTRUCTIONS:** This product may be applied in cotton as a spot treatment prior to boll opening.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. Crop sprayed in the treated area will be killed. Take care not to spray or to allow spray to drift outside target area to avoid unwanted crop destruction.

#### Preharvest

**USE INSTRUCTIONS:** This product provides weed control and cotton re-growth inhibition when applied prior to harvest of cotton. For weed control, apply at rates given in the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label. For cotton re-growth inhibition, apply 1 pint to 2 quarts of this product per acre.

Do not apply more than 2 quarts of this product for preharvest application. Apply after sufficient bolls have developed to produce the desired yield. Application made prior to this time could affect maximum yield potential.

**TANK MIXTURES:** This product may be tank mixed with DEF 6, Folex, Ginstar, or Prep to provide additional enhancement of cotton leaf-drop. Read and follow label directions for all products used in the tank mixture.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest. Preharvest application on cotton grown for seed could result in a reduction in germination or vigor. Buyer and all users are responsible for any and all loss or damage in connection with the preharvest use of this product on cotton grown for seed. Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture. **DO NOT ADD ADDITIONAL SURFACTANT OR ADDITIVES CONTAINING SURFACTANT TO THIS PRODUCT FOR PREHARVEST APPLICATION TO COTTON.**

#### 9.4 Fallow Systems

This product may be applied during the fallow period prior to planting or emergence of any crop listed on this label. For any crop not listed on this label, application must be made at least 30 days prior to planting.

**TYPES OF APPLICATION:** Chemical Fallow, Preplant Fallow Beds, Aid-to-Tillage

##### Chemical Fallow

**USE INSTRUCTIONS:** This product may be used as a substitute for tillage to control annual weeds in fallow fields. Broadcast or spot treatment application will also control or suppress many perennial weeds in fallow fields. Tank-mix this product with 2,4-D or dicamba for a broader weed control spectrum. Aerial application of up to 2 quarts per acre may be made onto fallow sites where there is sufficient buffer to prevent injury due to drift onto adjacent crops.

**PRECAUTIONS, RESTRICTIONS:** Refer to individual tank-mix product labels for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture. Some crop injury may occur if dicamba is applied within 45 days of planting.

##### Preplant Fallow Beds

**USE INSTRUCTIONS:** This product will control weeds listed in the "ANNUAL WEEDS RATE SECTION", "PERENNIAL WEEDS RATE SECTION" and "WOODY BRUSH AND TREES RATE SECTION" of this label prior to planting.

**TANK MIXTURES:** Use 12 fluid ounces of this product, plus 2 to 3 fluid ounces of Goal 2XL, per acre to control the following weeds up to the maximum height or length indicated: 3 inches - common cheeseweed, chickweed, groundsel; 6 inches - London rocket, shepherd's-purse.

Use 16 fluid ounces of this product, plus 2 to 3 fluid ounces of Goal 2XL, per acre to control the following weeds up to the maximum height or length indicated: 6 inches - common cheeseweed, groundsel, marestail (*Coryza canadensis*), 12 inches - chickweed, London rocket, shepherd's-purse.

##### Aid-to-Tillage

**USE INSTRUCTIONS:** This product may be used in conjunction with tillage practices in fallow systems or preplant to crops listed on this label to control downy brome, cheat, volunteer wheat, tansy mustard, and foxtail. Apply 12 fluid ounces of this product in 3 to 10 gallons of water per acre before weeds are 6 inches in height. Application must be followed by conventional tillage practices no later than 15 days after treatment and before re-growth occurs. Allow at least 1 day after application before tillage.

**PRECAUTIONS, RESTRICTIONS:** Tank mixtures with residual herbicides may result in reduced performance of this product.

#### 9.5 Grain Sorghum (Milo)



**TYPES OF APPLICATION:** Those listed in Section 9.0 plus Spot Treatment, Wiper Applicator, Preharvest Preplant, At-Planting, Preemergence

**USE INSTRUCTIONS:** This product may be applied alone or in a tank-mixture before, during or after planting grain sorghum, but prior to crop emergence.

**TANK MIXTURES:** This product may be tank-mixed with the products listed below. Ensure that the specific product being used is labeled for application prior to planting or emergence of grain sorghum.

Read and follow label directions for all products used in the tank mixture. Apply these tank mixtures in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre.

[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use preplant, at-planting and/or preemergence to grain sorghum

atrazine, alachlor, metolachlor, s-metolachlor

Bicep II MAGNUM, Bullet, Dual II MAGNUM, INTRRO, Lariat, Micro-Tech]

For tough-to-control annual weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply 2 pints of this product per acre in a tank mixture with one of the products listed above.

For control of other annual weeds listed on this label, apply 1.5 to 2 pints of this product per acre when weeds are less than 6 inches tall, and 2 to 3 pints per acre when weeds are over 6 inches tall. When using nitrogen solutions as the carrier, the use rate may need to be increased to achieve adequate weed control.

**PRECAUTIONS, RESTRICTIONS:** Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

#### Spot Treatment, Wiper Applicator

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in grain sorghum before heading. This product may be applied over the top of grain sorghum with a wiper applicator to control or suppress tall weeds. See additional instructions on the use of wiper applicators in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** For spot treatment, do not treat more than 10 percent of the total field area to be harvested. Crop sprayed in treated area will be killed. Take care not to spray or to allow spray to drift outside target area to avoid unwanted crop destruction.

When applied using a wiper applicator, allow at least 40 days between application and harvest. Do not use roller applicators. Do not feed or graze treated grain sorghum fodder. Do not ensile treated vegetation.

#### Hooded Sprayer

**USE INSTRUCTIONS:** This product may be applied using a hooded sprayer for weed control in-between rows of grain sorghum. Only hooded sprayers that completely enclose the spray pattern may be used. See additional instruction for the use of hooded sprayers in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Grain sorghum must be at least 12 inches tall, measured without extending leaves. Treat before grain sorghum sends tillers between the drill rows. If tillers are sprayed with this herbicide, the main plant may be damaged or destroyed. Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator. Do not graze or feed grain sorghum forage or fodder following application of this product with a hooded sprayer. Do not apply more than 1 quart of this product per acre per hooded sprayer application and no more than 3 quarts per acre per year total.

## Preharvest

**USE INSTRUCTIONS:** This product may be applied prior to harvest after sorghum grain has reached 30 percent grain moisture or less.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 2 quarts of this product per acre. As with other herbicides that cause sudden plant death, avoid preharvest application of this product to milo infected with charcoal rot as lodging can occur. Allow a minimum of 7 days between application and harvest of grain sorghum. Preharvest application on sorghum grown for seed could result in a reduction in germination or vigor. Buyer and all users are responsible for any and all loss or damage in connection with the preharvest use of this product on sorghum grown for seed. Preharvest application of this product on grain sorghum (milo) is not registered for use in California.

## Post-Harvest

**USE INSTRUCTIONS:** This product may be applied for weed control after harvest of grain sorghum. Higher rates may be required to control large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used. Ensure that the specific product being used is registered for post-harvest application in grain sorghum (milo). Read and follow label directions of all products in the tank mixture.

This product may be applied to grain sorghum (milo) stubble following harvest to suppress or control re-growth. Apply 1 quart of this product per acre for control, or 1.5 pints of this product per acre for suppression.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation. Application must be made at least 30 days prior to planting any crop not listed on this label. Refer to each individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

## 9.6 Herbs and Spices

**LABELED CROPS:** Allspice, Angelica, Star anise, Annatto (seed), Balm, Basil, Borage, Burnet, Camomile, Caper buds, Caraway, Black caraway, Cardamom, Cassia bark, Cassia buds, Catnip, Celery seed, Chervil (dried), Chive, Chinese chive, Cinnamon, Clary, Clove buds, Coriander leaf (cilantro or Chinese parsley), Coriander seed (cilantro), Costmary, Culantro (leaf), Culantro (seed), Cumin, Curry (leaf), Dill (dillweed), Dill (seed), Epazote, Fennel seed (common and Florence), Fenugreek, White ginger flower, Grains of paradise, Horehound, Hyssop, Juniper berry, Lavender, Lemongrass, Lovage (leaf and seed), Mace, Marigold, Marjoram (including oregano), Mexican oregano, Mioga flower, Mustard (seed), Nasturtium, Nutmeg, Parsley (dried), Pennyroyal, Pepper (black and white), Pepper leaves, Peppermint, Perilla, Poppy (seed), Rosemary, Rue, Saffron, Sage, Savory (summer and winter), Spearmint, Stevia leaves, Sweet bay, Tansy, Tarragon, Thyme, Vanilla, Wintergreen, Woodruff, Wormwood

**TYPES OF APPLICATION:** Those listed in Section 9.0 plus Spot Treatment (Peppermint and Spearmint Only), Wiper Applicator (Peppermint and Spearmint Only)

**PRECAUTIONS, RESTRICTIONS:** This product could cause crop injury when applied prior to transplanting or direct-seeding crops into plastic mulch. Remove residual product from the plastic prior to planting with a single 0.5-inch application of water, either by natural rainfall or by irrigation. Ensure that the washwater flushes off the plastic mulch and does not enter transplant holes.

**Spot Treatment, Wiper Applicator (Peppermint and Spearmint Only)**

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in peppermint or spearmint, or over the top of peppermint and spearmint with a wiper applicator. Apply spot treatment on a spray-to-wet basis using hand-held equipment, such as a backpack sprayer, pump-up pressure sprayer, a hand-gun, hand-wand or any other hand-held or motorized spray equipment used to direct the spray solution to a limited area. See additional instructions on the use of wiper applicators in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Application may be repeated on the same area at 30-day intervals. Allow at least 7 days between application and harvest. For spot treatment application, do not treat more than 10 percent of the total field area to be harvested. Crop sprayed in the treated area will be killed. Take care not to spray or allow spray to drift outside the target area in order to avoid unwanted crop

destruction. With wiper application, droplets, mist, foam or splatter of the herbicide solution onto desirable vegetation may result in discoloration, stunting, or destruction.

#### 9.7 Oil Seed Crops

**LABELLED CROPS:** Borage, Buffalo gourd (seed), Canola, Crambe, Flax, Jojoba, Lesquerella, Meadowfoam, Mustard (seed), Rape, Safflower, Sesame, Sunflower

For use directions with Roundup Ready canola, see the "ROUNDUP READY CROPS" section of this label.

**TYPES OF APPLICATION:** Those listed in Section 9.0 plus Preharvest (Safflower and Sunflower only)

**USE INSTRUCTIONS:** Refer to the following table for maximum application rates of this product for use in canola, safflower and sunflower. See the "PRODUCT INFORMATION" section of this label for more information on Maximum Application Rates.

Maximum Application Rates	
<b>Canola</b>	
Combined total for all preemergence and shielded Sprayer applications	2 quarts per acre
<b>Safflower</b>	
Combined total for all preemergence and shielded Sprayer applications	3 quarts per acre
Preharvest application	3 quarts per acre
<b>Sunflower</b>	
Combined total for all preemergence and shielded Sprayer applications	1 quart per acre
Preharvest application	1 quart per acre

#### Preplant, At-Planting, Preemergence

**USE INSTRUCTIONS:** This product may be applied before, during or after planting oil seed crops listed in this section. Observe the maximum application rates for canola, safflower and sunflower listed at the beginning of this section.

**TANK MIXTURES:** For sunflowers, a tank mixture with pendimethalin (Prowl) may be applied before, during or after planting into conventionally tilled soil, a cover crop, established sod or previous crop residue.

#### Selective Equipment

**USE INSTRUCTIONS:** This product may be applied using a wiper applicator or shielded sprayer in-between the rows once the crop is established. See additional instructions on the use of wiper applicators and hooded sprayers in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label. Observe the maximum application rates for canola, safflower and sunflower listed at the beginning of this section.

#### Preharvest (Safflower and Sunflower Only)

**USE INSTRUCTIONS:** This product provides weed control as a harvest aid when applied to a physiologically mature crop of safflower and sunflower prior to harvest. For safflower, apply a maximum of 3 quarts of this product when seed has lost its opaque character, approximately 20 to 30 days after the end of flowering of the secondary branches. For sunflower, apply a maximum of 1 quart of this product when the backsides of sunflower heads are yellow and bracts are turning brown, and seed moisture content is less than 35 percent.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between treatment and harvest or livestock feeding. Application must be made at least 30 days prior to planting any crop not listed on this label.

#### Post-Harvest

**USE INSTRUCTIONS:** This product may be applied for weed control after harvest of oil seed crops. Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation. Applications must be made at least 30 days prior to planting any crop not listed on this label.

#### 9.8 Soybean

**TYPES OF APPLICATION:** Those listed in Section 9.0, plus Spot Treatment, Selective Equipment, Preharvest

For use directions with Roundup Ready soybean, and Roundup Ready 2 Yield soybean, see the "ROUNDUP READY CROPS" section of this label.

Preplant, At-Planting, Preemergence

**USE INSTRUCTIONS:** This product may be applied alone or in a tank mixture before, during or after planting soybean, but prior to crop emergence.

**TANK MIXTURES:** This product may be tank-mixed with the following products. Ensure that the specific product being used is labeled for application prior to planting or the emergence of soybean. Read and follow label directions for all products in the tank mixture. Apply these tank mixtures in 10 to 20 gallons of water per acre.

(Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use preplant, at-planting and/or preemergence to soybeans:

2,4-D, alachlor, atrazine, carfentrazone-ethyl, chlorimuron ethyl, clethodim, clomazone, cloransulam-methyl, dimethenamid, fenoxypop, fluazifop-p-butyl, flufenacet, flumetsulam, flumiclorac pentyl ester, flumioxazin, fomesafen, imazaquin, imazethapyr, lactofen, linuron, metolachlor, s-metolachlor, metribuzin, pendimethalin, sulfentrazone, tribenuron methyl, trifluralin, quizalofop P-ethyl

Aim, Assure II, Axiom, Authority, Blanket, Boundary, Canopy, Canopy EX, Classic, Cobra, Command, Command Xtra, Domain, Dual MAGNUM, Dual II MAGNUM, FirstRate, Flexstar, Frontier, Fusion, Gangster, Gauntlet, INTRRO, Lexone, Linex, Linuron, Lorox, Lorox Plus, Me-Too-Lachlor, Micro-Tech, Outlook, Pendimax, Prowl, Prowl H2O, Pursuit, Pursuit Plus, Python, Reflex, Resource, Scepter, Select, Select MAX, Sencor, Spartan, Squadron, Steel, Treflan, Valor]

For tough-to-control annual weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 2 pints per acre in these tank mixtures. For other labeled annual weeds, apply 1.5 to 2 pints of this product per acre when weeds are less than 6 inches tall, and 2 to 3 pints per acre when weeds are over 6 inches tall.

**PRECAUTIONS, RESTRICTIONS:** Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

#### Spot Treatment

**USE INSTRUCTIONS:** This product may be applied as a spot treatment prior to initial pod set in soybean.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. Crop sprayed in treated area will be killed. Take care not to spray or allow spray to drift outside the target area to avoid unwanted crop destruction.

#### Selective Equipment

**USE INSTRUCTIONS:** This product may be applied in soybean using a shielded applicator, hooded sprayer, wiper applicator or sponge bar. See additional instructions on the use of selective equipment in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Allow at least 7 days between application and harvest.

#### Preharvest

**USE INSTRUCTIONS:** This product may be applied to soybean prior to harvest after pods have set and

lost all green color. Apply at rates given in the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION". Take care to avoid excessive seed shatter loss due to ground application equipment.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 5 quarts of this product per acre for preharvest application. Do not apply more than 2 quarts of this product per acre by air. Allow a minimum of 7 days between application and harvest of soybeans. If the preharvest application rate is greater than 1 quart per acre, do not graze or harvest treated hay or fodder for livestock feed within 25 days of application. If the application rate is 1 quart per acre or less, the grazing restriction is reduced to 14 days after application. Preharvest application on soybean grown for seed could result in a reduction in germination or vigor. Buyer and all users are responsible for any and all loss or damage in connection with the preharvest use of this product on soybean grown for seed.

### 9.9 Sugarcane

**TYPES OF APPLICATION:** Those listed in Section 9.0 plus Spot Treatment, Sugarcane Ripening Preplant, At-Planting, Preemergence

**USE INSTRUCTIONS:** This product may be applied in or around sugarcane fields, or in fields prior to the emergence of plant cane.

**PRECAUTIONS, RESTRICTIONS:** Do not apply to vegetation in or around ditches, canals or ponds containing water to be used for irrigation.

#### Spot Treatment

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in sugarcane. For control of volunteer or diseased sugarcane, apply a 1-percent solution of this product in water using a spray-to-wet technique. Best results are obtained on volunteer or diseased sugarcane with at least 7 new leaves.

**PRECAUTIONS, RESTRICTIONS:** Avoid spray contact with healthy sugarcane plants as severe damage or destruction may result. Do not feed or graze treated sugarcane foliage following application.

#### Fallow Treatment

**USE INSTRUCTIONS:** This product may be used as a replacement for tillage in fields that are lying fallow between sugarcane crops. This product may also be used to remove the last stubble of ratoon cane. For removal of last stubble of ratoon cane, apply 4 to 5 quarts of this product in 10 to 40 gallons of water per acre to new growth having at least 7 new leaves. Allow 7 or more days after application before tillage. Aerial application of up to 3 quarts per acre may be made in fallow sites where there is sufficient buffer to prevent drift onto adjacent crops. Tank mixtures with 2,4-D and dicamba may be used. Ensure that the specific product being used is labeled for these applications in sugarcane. Read and follow label directions of all products in the tank mixture.

#### Hooded Sprayer

**USE INSTRUCTIONS:** This product may be applied using a hooded sprayer for weed control in-between rows of sugarcane. See additional instructions on the use of hooded sprayers in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Do not allow treated weeds to come into contact with the crop. Droplets, mist, foam or splatter of the herbicide solution settling on the crop may result in discoloration, stunting or destruction. Such damage shall be the sole responsibility of the applicator.

#### Sugarcane Ripening

**USE INSTRUCTIONS:** This product is a foliar-applied plant growth regulator to hasten ripening and increase the level of sucrose in sugarcane. It is effective in both low and high-tonnage sugarcane.

When applied as directed under the conditions described, this product will hasten ripening and extend the period of high sucrose level in sugarcane.

As a result of leaf desiccation, improved trash burn can be expected.

Most of the sucrose increase is concentrated in the top nodes of the treated cane stalk. To maximize sugar recovery where topping is practiced at harvest, top at the base of the fourth leaf.

Prior to application, consult your state sugarcane authority or local **REPAR CORPORATION** representative regarding the degree of sucrose response anticipated from the variety of sugarcane to be treated.

**Application Rates:** Use the following application rates and timing instructions according to the State in which the sugarcane is grown.

**NOTE:** Use the higher rate within the given range when treating sugarcane under adverse ripening conditions or when less responsive varieties are to be treated.

**FLORIDA-**Apply 7 to 16 fluid ounces of this product per acre 3 to 5 weeks before harvest of **LAST RATOON CANE ONLY**.

**HAWAII-**Apply 12 to 28 fluid ounces of this product per acre 4 to 10 weeks before harvest.

**LOUISIANA-**Apply 5 to 16 fluid ounces of this product per acre 3 to 7 weeks before harvest of **RATOON CANE ONLY**.

**PUERTO RICO-**Apply 7 fluid ounces of this product per acre 3 to 5 weeks before harvest of **RATOON CANE ONLY**.

**TEXAS-**Apply 7 to 16 fluid ounces of this product per acre 3 to 5 weeks before harvest of **RATOON CANE ONLY**.

**PRECAUTIONS, RESTRICTIONS:** Application of this product may initiate development of shooting eyes. This product may not increase the sucrose content of sugarcane under conditions of good natural ripening. Within 2 to 3 weeks after application, this product may produce a slight yellowing to a pronounced browning and drying of leaves, and a shortening of upper internodes. Spindle death may occur.

Rainfall within 6 hours after application may reduce effectiveness.

Application to sugarcane grown for seed could result in a reduction in germination or vigor. Buyer and all users are responsible for any and all loss or damage in connection with the preharvest use of this product on sugarcane grown for seed.

Do not feed or graze treated sugarcane forage following application. Do not plant subsequent crops in treated fields other than the following for 30 days after application: alfalfa or other forage legumes, beans (all types), corn (all types), cotton, melons (all types), pasture grasses, peanuts, potatoes (Irish or sweet), sorghum (milo), soybeans, squash (all types) or wheat.

Do not apply for enhanced ripening to any crops other than sugarcane. Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences.

#### 9.10 Vegetable Crops

**NOTE:** THIS "VEGETABLE CROPS" SECTION GIVES DIRECTIONS THAT APPLY TO ALL VEGETABLE CROPS LISTED ALPHABETICALLY IN THE SECTIONS THAT FOLLOW. SEE THE INDIVIDUAL CROP SECTIONS FOR SPECIFIC USE INSTRUCTIONS, PREHARVEST INTERVALS, PRECAUTIONS AND RESTRICTIONS.

**TYPES OF APPLICATION:** Chemical Fallow, Preplant Fallow Beds, Preplant, At-Planting, Preemergence, Prior to Transplanting Vegetables, Hooded Sprayer in Row Middles, Shielded Sprayer in Row Middles, Wiper Applicator in Row Middles, Post-Harvest

**PRECAUTIONS, RESTRICTIONS:** This product could cause crop injury when applied prior to transplanting or direct-seeding crops into plastic mulch. Remove product residues from the plastic prior to planting with a single 0.5-inch application of water, either by natural rainfall or by irrigation. Ensure that the wash water flushes off the plastic mulch and does not enter transplant holes. Application of this product at crop emergence will result in injury or death to emerged seedlings.

Avoid contact of this herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops, as severe crop injury or destruction may result. When making a preemergence or at-planting application, the application must be made before crop emergence to avoid severe crop injury. Apply before seed germination in coarse sandy soils to further minimize the risk of crop injury. In crops with vines, make hooded sprayer, shielded sprayer and wiper applicator

treatments in row middles prior to vine development, otherwise severe crop injury or destruction may result. Unless otherwise specified on this label, treatment with selective equipment including wiper applicators or hooded sprayers must be made at least 14 days prior to harvest. Post-Harvest or fallow application must be made at least 30 days prior to planting any crop not listed on this label. See additional use instructions in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

#### 9.10.1 Brassica Vegetables

**LABELED CROPS:** Broccoli, Chinese broccoli (gai lan), Broccoli raab (rapini), Brussels sprouts, Cabbage, Chinese cabbage (bok choy), Chinese cabbage (napa), Chinese mustard cabbage (gai choy), Cauliflower, Cavalo broccolo, Collards, Kale, Kohlrabi, Mizuna, Mustard greens, Mustard spinach, Rape greens

#### 9.10.2 Bulb Vegetables

**LABELED CROPS:** Garlic, Great-headed garlic, Leek, Onion (dry bulb and green), Welsh onion, Shallot

#### 9.10.3 Cucurbit Vegetables and Fruits

**LABELED CROPS:** Chayote (fruit), Chinese waxgourd (Chinese preserving melon), Citron melon, Cucumber, Gherkin, Edible gourd (includes hyotan, cucuzza, hechima, Chinese okra), Melons (all), Momordica spp (includes balsam apple, balsam pear, bittermelon, Chinese cucumber), Muskmelon (includes cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey ball melon, mango melon, Persian melon, pineapple melon, Santa Claus melon, snake melon), Pumpkin, Summer squash (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini), Winter squash (includes butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash), Watermelon

**PRECAUTIONS, RESTRICTIONS:** For cantaloupe, casaba melon, crenshaw melon, cucumber, gherkin, gourds, honeydew melon, honey ball melon, mango melon, melons (all), muskmelon, Persian melon, pumpkin, squash (summer, winter), and watermelon, allow at least 3 days between application and planting.

#### 9.10.4 Leafy Vegetables

**LABELED CROPS:** Amaranth (Chinese spinach), Arugula (roquette), Beet greens, Cardoon, Celery, Chinese celery, Celtuce, Chaya, Chervil, Edible-leaved chrysanthemum, Garland chrysanthemum, Corn salad, Cress (garden and upland), Dandelion, Dock (sorrel), Dokudami, Endive (escarole), Florence fennel, Gow kee, Lettuce (head and leaf), Orach, Parsley, Purslane (garden and winter), Radicchio (red chicory), Rhubarb, Spinach, New Zealand spinach, Vine spinach, Swiss chard, Watercress (upland), Water spinach

**PRECAUTIONS, RESTRICTIONS:** For watercress, avoid application within 3 days prior to seeding and during the period between seeding and emergence to minimize the risk of crop injury.

#### 9.10.5 Fruiting Vegetables

**LABELED CROPS:** Eggplant, Groundcherry (Physalis spp), Pepino, Pepper (includes bell pepper, chili pepper, cooking pepper, pimento, sweet pepper), Tomatillo, Tomato

**PRECAUTIONS, RESTRICTIONS:** For eggplant, ground cherry, pepper (all), and tomatillo, allow at least 3 days between application and planting. For tomato and tomatillos grown on sandy soil, do not apply using hooded sprayer, shielded sprayer or wiper applicator in row middles because of the potential for crop injury.

#### 9.10.6 Legume Vegetables (Succulent or Dried)

**LABELED CROPS:** Bean (Lupinus: includes grain lupin, sweet lupin, white lupin, and white sweet lupin), Bean (Phaseolus: includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean), Bean (Vigna: includes adzuki bean, asparagus bean, blackeye pea, catjang, Chinese longbean, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean), Broad bean (fava), Chickpea (garbanzo), Guar, Jackbean, Lablab bean, Lentil, Pea (Pisum: includes dwarf pea, edible-podded pea, English pea, field pea, garden pea, green pea, snowpea, sugar snap pea), Pigeon pea, Soybean (immature seed), Sword bean

#### Spot Treatment (Dry Beans, Peas, Lentils and Chickpeas Only)

**USE INSTRUCTIONS:** This product may be applied as a spot treatment to control troublesome weeds such as Canada thistle, quackgrass, mayweed (dog fennel), and milkweed in dry beans, peas, lentils and chickpeas. Apply up to 1 quart of this product per acre in dry beans, or up to 3 quarts per acre in dry peas, lentils and chickpeas, in 10 to 20 gallons of water using ground application equipment, or use a 2-percent solution in a hand-held sprayer. For best results, apply at or beyond the bud stage of growth.

**PRECAUTIONS, RESTRICTIONS:** Apply at least 7 days before harvest. Only one application may be made per year. Do not combine spot treatment with a preharvest broadcast spray on the same crop area. Observe at least a 30-day plant-back interval between treatment and replanting of any crop not listed on this label. Do not feed treated vines and hay to livestock. Do not treat cowpeas or field (feed) peas, since these crops are considered to be grown as livestock feed. Crop sprayed in the treated area will be killed. Take care not to spray or allow spray to drift outside target area in order to avoid unwanted crop destruction.

#### Preharvest (Dry Beans, Peas, Lentils and Chickpeas Only)

**USE INSTRUCTIONS:** This product may be applied over the top of dry beans, peas, lentils and chickpeas to prior to harvest. Apply up to 1 quart of this product per acre in dry beans, or up to 3 quarts per acre in dry peas, lentils, and chickpeas, in 3 to 20 gallons of water per acre at the hard dough stage of the legume seed (30 percent grain moisture or less).

**PRECAUTIONS, RESTRICTIONS:** Apply at least 7 days prior to harvest. Only one preharvest application may be made per year. Do not combine a preharvest spray with spot treatment on the same crop area. Observe at least a 30-day plant-back interval between treatment and replanting of any crop not listed on this label. Do not feed treated vines and hay to livestock. Preharvest application on legumes grown for seed could result in a reduction in germination or vigor. Buyer and all users are responsible for any and all loss or damage in connection with the preharvest use of this product on legumes grown for seed. Do not treat cowpeas or field (feed) peas, since these crops are considered to be grown as livestock feed.

#### 9.10.7 Root and Tuber Vegetables

**LABELED CROPS:** Arracacha, Arrowroot, Chinese artichoke, Jerusalem artichoke, Beet (garden), Burdock, Canna, Carrot, Cassava (bitter and sweet), Celeriac, Chayote (root), Chervil (turnip-rooted), Chicory, Chufa, Dasheen (taro), Galangal, Ginger, Ginseng, Horseradish, Leren, Kava (turnip-rooted), Parsley (turnip-rooted), Parsnip, Potato, Radish, Oriental radish, Rutabaga, Salsify, Black salsify, Spanish salsify, Skirret, Sweet potato, Tanier, Turmeric, Turnip, Wasabi, Yacon, Yam bean, True yam

#### Directed Application (Non-Bearing Ginseng Only)

**USE INSTRUCTIONS:** This product may be applied for weed control in established non-bearing ginseng. Application may be made with boom equipment, CDA, a shielded sprayer, a wiper applicator, a hand-held or backpack wand, lance, or orchard gun. See additional use instructions for selective equipment in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Application must be made at least one year prior to harvest. Control the application so as not to allow any contact of this product with the ginseng plant. Droplets, mist, foam or splatter of the herbicide solution settling onto desirable vegetation may result in discoloration, stunting or destruction.

#### Wiper Applicator (Rutabagas Only)

**USE INSTRUCTIONS:** A wiper applicator may be used over the top of rutabagas for the control of tall weeds. See additional use instructions for wiper applicators in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Allow at least 14 days between application and harvest of rutabagas. Droplets, mist, foam or splatter of the herbicide solution settling onto desirable vegetation may result in discoloration, stunting or destruction.

#### 9.11 Miscellaneous Crops



**LABELED CROPS:** Aloe vera, Asparagus, Bamboo shoots, Globe artichoke, Okra, Peanut (ground nut), Pineapple, Strawberry, Sugar beet

**TYPES OF APPLICATION:** Those listed in Section 9.0 plus Weed Control, Site Preparation, Spot Treatment (Asparagus)

For use directions with Roundup Ready sugar beet, see the "ROUNDUP READY CROPS" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Avoid contact of this product with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops, as severe crop injury or destruction may result. When making preemergence and at-planting applications, application must be made before crop emergence to avoid severe crop injury. Apply before seed germination in coarse sandy soils to further minimize the risk of crop injury. In crops with vines, make hooded sprayer, shielded sprayer and wiper applicator treatments in row middles prior to vine development, otherwise severe injury or destruction may result. Unless otherwise specified in this product's labeling, treatment using selective equipment including wiper applicators and hooded sprayers must be made at least 14 days prior to harvest. Post-harvest or fallow applications must be made at least 30 days prior to planting any crop not listed on this label. See additional information in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

#### Weed Control, Site Preparation

**USE INSTRUCTIONS:** This product may be applied for weed control or for site preparation prior to planting or transplanting crops listed in this section.

**PRECAUTIONS, RESTRICTIONS:** This product could cause crop injury when applied prior to transplanting or direct-seeding crops into plastic mulch. Remove residues of this product from the plastic prior to planting with a single 0.5-inch application of water, either by natural rainfall or by irrigation. Ensure that the wash water flushes off the plastic mulch and does not enter transplant holes. Allow at least 21 days between residue removal and transplanting. Application of this product at crop emergence will result in injury or death to emerged seedlings.

Do not apply within a week before the first asparagus spears emerge. Do not feed or graze treated pineapple forage following application.

#### Spot Treatment (Asparagus)

**USE INSTRUCTIONS:** This product may be applied immediately after cutting, but prior to the emergence of new spears.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. Do not harvest within 5 days of treatment.

#### Post-Harvest (Asparagus)

**USE INSTRUCTIONS:** This product may be applied for weed control after the last harvest and all spears have been removed. If spears are allowed to re-grow, delay application until ferns have developed and make the application as a directed or shielded spray in order to avoid contact of the spray with ferns, stems or spears. See additional use instructions in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Direct contact of the spray with asparagus may result in serious crop injury.

### 10.0 TREE, VINE, AND SHRUB CROPS

**NOTE:** THIS SECTION GIVES DIRECTIONS THAT APPLY TO ALL TREE, VINE, AND SHRUB CROPS LISTED ALPHABETICALLY IN THE SECTIONS THAT FOLLOW. SEE THE INDIVIDUAL CROP SECTIONS FOR SPECIFIC INSTRUCTIONS, PREHARVEST INTERVALS, PRECAUTIONS AND RESTRICTIONS.

**TYPES OF APPLICATION:** Preplant (site preparation) Broadcast Sprays, Weed Control, Middles (in-between rows of trees, vines or bushes), Strips (within rows of trees, vines or bushes), Selective Equipment (shielded sprayers, wiper applicators), Directed Spray, Spot Treatment, Perennial Grass Suppression, Cut Stump)

This product may be applied using boom spray equipment, CDA, a shielded sprayer, a wiper applicator, a hand-held or backpack wand, lance, or orchard gun, unless prohibited in the specific crop sections that follow.

**USE INSTRUCTIONS:** This product may be applied in middles (in-between rows of trees or vines), strips (within rows of trees or vines), and for weed control or perennial grass suppression in established tree fruit and nut groves, orchards, berries, and vineyards. It may also be used for site preparation prior to planting or transplanting these crops. Apply 1 pint to 5 quarts per acre according to the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label. Use the higher rates in the given range when weeds are stressed, growing in dense populations or are greater than 12 inches tall. Repeat applications may be made up to a maximum of 10.6 quarts per acre per year. See the "PRODUCT INFORMATION" section of this label for more information on Maximum Application Rates.

**PRECAUTIONS, RESTRICTIONS:** Use extreme care to avoid contact of this herbicide solution, spray, drift or mist with foliage or green bark of trunk, branches, suckers, fruit or other parts of trees, canes and vines. Avoid application when recent pruning wounds or other mechanical injury has occurred. Contact of this product with other than matured brown bark can result in serious crop damage or destruction. Only shielded or directed sprayers may be used in crops with potential for crop contact, and then only where there is sufficient clearance. For application in strips (within rows of trees), only use selective equipment (directed spray, hooded sprayer, shielded sprayer, or wiper applicator) in order to minimize the potential for overspray or drift of this product onto the crop. For berry crops, hooded or shielded sprayers must be fully enclosed including top, sides, front and back. Only wiper applicators or shielded sprayers capable of preventing all contact with the crop may be used. See additional instructions and precautions in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

Allow a minimum of 3 days between application and transplanting. Middles (in-between rows)

**USE INSTRUCTIONS:** This product will control or suppress annual and perennial weeds and ground covers growing in-between rows of tree and vine crops listed on this label. If weeds are under drought stress, irrigate prior to application. Reduced weed control may result if weeds have been recently mowed at the time of application.

**TANK MIXTURES:** A tank mixture of this product with Goal 2XL may be applied for annual weed control in-between rows (middles) of citrus crops, tree fruits, tree nuts and vine crops when weeds are stressed or growing in dense populations. Application of 16 to 32 fluid ounces of this product per acre plus 3 to 12 fluid ounces of Goal 2XL per acre will control annual weeds with a maximum height or length of 6 inches, including crabgrass, common groundsel, junglerice, common lambsquarters, redroot pigweed, London rocket, common ryegrass, shepherd's-purse, annual sowthistle, filaree (suppression),

horseweed/marestail (*Conyza canadensis*), stinging nettle and common purslane (suppression). This

tank mixture will also control common cheeseweed (malva) or hairy fleabane (*Conyza bonariensis*) with a maximum height or length of 3 inches. Read and follow all labels and directions for use of all products being used in the tank mixture.

This product may also be applied to row middles in tank mixtures with the following products. Ensure that the specific product being used is labeled for application to the crop to be treated. Read and follow label directions of all products in the tank mixture.

[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use in middles (in-between rows) of tree, vine and shrub crops:

bromacil, diuron, napropamide, norflurazon, oryzalin, oxyfluorfen, pendimethalin, simazine

Devrinol 50-DF, Direx 4L, Goal 2XL, Karmex DF, Karmex II DF, Prowl, Princep Caliber 90, Simazine 4L, Simazine 80W, Sim-Trol 4L, Solicam DF, Surflan AS, Surflan 75W]

Strips (within rows)

**TANK MIXTURES:** This product may be applied within rows of tree or vine crops in tank mixtures with the following products. Ensure that the specific product being used is labeled for this use and with the crop

being grown. Read and follow label directions of all products in the tank mixture.

[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use in strips (in rows) of tree, vine and shrub crops:

bromacil, diuron, napropamide, norflurazon, oryzalin, oxyfluorfen, pendimethalin, simazine

Devrinol 50-DF, Direx 4L, Goal 2XL, Karmex DF, Karmex II DF, Prowl, Princep Caliber 90, Simazine 4L, Simazine 80W, Sim-Trol 4L, Solicam DF, Surflan AS, Surflan 75W]

**PRECAUTIONS, RESTRICTIONS:** Do not apply these tank mixtures in Puerto Rico. Refer to the individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

#### Perennial Grass Suppression

This product will suppress perennial grasses such as bahiagrass, bermudagrass, tall fescue, orchardgrass, Kentucky bluegrass, and quackgrass that are grown as ground covers in tree and vine crops.

For suppression of tall fescue, fine fescue, orchardgrass and quackgrass, apply 8 fluid ounces of this product in 10 to 20 gallons of water per acre.

For suppression of Kentucky bluegrass covers, apply 6 fluid ounces of this product per acre. Do not add ammonium sulfate.

For best results, mow cool-season grass covers in the spring to even their height and apply this product 3 to 4 days after mowing.

For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 6 fluid ounces of this product in 10 to 25 gallons of water per acre. Apply 1 to 2 weeks after full green-up or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence.

For suppression up to 120 days, apply 4 fluid ounces of this product per acre, followed by an application of 2 to 4 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

For burndown of bermudagrass, apply 1 to 2 quarts of this product in 3 to 20 gallons of water per acre. Use this treatment only if reduction of the bermudagrass stand can be tolerated. When burndown is required prior to harvest, apply at least 21 days prior to harvest to allow sufficient time for burndown to occur.

For suppression of bermudagrass, apply 6 to 16 fluid ounces of this product per acre east of the Rocky Mountains and 16 fluid ounces of this product per acre west of the Rocky Mountains in a spray volume of 3 to 20 gallons per acre, no sooner than 1 to 2 weeks after full green-up. If the bermudagrass is mowed prior to application, maintain a minimum of 3 inches in height. Sequential applications may be made when re-growth occurs and bermudagrass injury and stand reduction can be tolerated. East of the Rocky Mountains, use 6 to 10 fluid ounces of this product per acre in shaded conditions or where a lesser degree of suppression is desired.

#### Cut Stump (Tree Crops)

**USE INSTRUCTIONS:** Application of this product to freshly cut tree stumps may be made during site preparation or site renovation prior to transplanting tree crops. This product will control re-growth of cut stumps and re-sprouts of many types of tree species, some of which are listed below.

**Citrus Trees:** Calamondin, Chironja, Citron, Citrus hybrids, Grapefruit, Kumquat, Lemon, Lime, Mandarin (Tangerine), Orange (all), Pummelo, Tangelo (Ugli), Tangor

**Fruit Trees:** Apple, Apricot, Cherry (sweet, sour), Crabapple, Loquat, Mayhaw, Nectarine, Olive, Peach, Pear, Plum/Prune (all), Quince

**Nut Trees:** Almond, Beechnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (hazelnut), Hickory Nut, Macadamia, Pecan, Pistachio, Walnut (black, English)

Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50- to 100-percent solution of this product to the freshly

cut surface immediately after cutting. Delays in application can result in reduced performance. For best results, make application during periods of active growth and full leaf expansion.

**PRECAUTIONS, RESTRICTIONS:** DO NOT MAKE CUT STUMP APPLICATION WHEN THE ROOTS OF ADJACENT DESIRABLE TREES MAY BE GRAFTED TO THE ROOTS OF THE CUT STUMP. INJURY RESULTING FROM ROOT GRAFTING MAY OCCUR IN ADJACENT TREES. Some sprouts, stems, or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems/trees when one or more trees sharing common roots are treated.

#### 10.1 Berry Crops

**LABELED CROPS:** Blackberry (including bingleberry, black satin berry, boysenberry, Cherokee

blackberry, chesterberry, Cheyenne blackberry, coryberry, darrowberry, dewberry, Dirksen thornless berry, Himalayaberry, hullberry, juneberry, lavacaberry, lowberry, lucretiaberry, marionberry, nectarberry, ollalieberry, Oregon evergreen berry, phenomenal berry, rangeberry, ravenberry, rossberry, Shawnee blackberry, and youngberry), Blueberry, Cranberry, Currant, Elderberry, Gooseberry, Huckleberry, Loganberry, , Salal. {Optional Crop: Raspberry (black, red)}

**TYPES OF APPLICATION:** Those listed in Section 10.0, plus Spot Treatment in Cranberry Production, Post-Harvest in Cranberry Production

**PRECAUTIONS, RESTRICTIONS:** To avoid damage, herbicide spray must not be allowed to contact desirable vegetation, including green shoots, canes, or foliage. Allow a minimum of 30 days between last application and harvest of cranberries. Allow a minimum of 14 days between last application and harvest of other berry crops.

##### Spot Treatment in Cranberry Production

**USE INSTRUCTIONS:** Spot treatment may be used to control weeds growing in dry ditches (interior and perimeter) of cranberry production areas. A hand-held sprayer or other appropriate application equipment listed in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label may be used. Drop water level to remove standing water in ditches prior to application. With a hand-held sprayer, use a 1 to 2-percent solution of this product, and spray adequately to wet the vegetation only; do not spray to the point of run-off.

**PRECAUTIONS, RESTRICTIONS:** To achieve maximum weed control in treatment of dry ditches after water drawdown, allow 2 or more days after treatment before reintroduction of water. Apply this product within 1 day after drawdown to ensure application to actively growing weeds. Allow a minimum of 30 days between last application and harvest of cranberries. Do not apply by air. Do not apply directly to water. Use nozzles that emit medium to large-sized droplets in order to minimize spray drift and avoid crop injury.

##### Post-Harvest Treatments in Cranberry Production

**USE INSTRUCTIONS:** Application of this product may be made after the harvest of cranberries to control weeds growing in the field. Apply this product to vines that appear dormant (after they have turned red). Hand-held sprayers, wiper applicators, or other appropriate application equipment listed in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label may be used for this use. With hand-held sprayers, use a 0.5 to 1-percent solution of this product and spray adequately to wet the vegetation only; do not spray to the point of run-off. With hand-held boom sprayers, apply 2 to 4 quarts of this product per acre.

**PRECAUTIONS, RESTRICTIONS:** Apply this product only after cranberries have been harvested. Do not treat more than 10 percent of the total bog. Allow a minimum of 6 months between last application and next harvest of cranberries. Do not apply by air. Do not apply directly to water. Even though vines appear dormant, contact of the herbicide solution with desirable vegetation may result in damage or severe plant injury. Cranberry plants that are directly sprayed may be killed.

## 10.2 Citrus

**LABELED CROPS:** Calamondin, Chironja, Citron, Citrus Hybrids, Grapefruit, Kumquat, Lemon, Lime, Mandarin (tangerine), Orange (all), Pummelo, Satsuma Mandarin, Tangelo (ugli), Tangor

**TYPES OF APPLICATION:** Those listed in Section 10.0

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 1 day between last application and harvest in citrus crops. For citron groves, apply as a directed spray only.

**USE INSTRUCTIONS:** The following use instructions pertain to application in Florida and Texas only.

For burndown or control of the weeds listed below, apply this product at the specified rate in 3 to 30 gallons of water per acre. Where weed foliage is dense, use 10 to 30 gallons of water per acre.

For goatweed, apply 2 to 3 quarts of this product in 20 to 30 gallons of water per acre when plants are actively growing. Use 2 quarts per acre when plants are less than 8 inches tall, and 3 quarts per acre when plants are greater than 8 inches tall. If goatweed is greater than 8 inches tall, use of this product in a tank mixture with Krovar 1 or Karmex may improve weed control. Refer to the individual product labels for a listing of specific crops, rates, geographic restrictions and precautionary statements.

Perennial weeds:

S = Suppression

B = Burndown

PC = Partial control

C = Control

TOPDOG 41% PLUS RATE PER ACRE				
WEED SPECIES	1 QT	2 QT	3 QT	5 QT
Bermudagrass	B	--	PC	C
Guineagrass				
Texas and Florida Ridge	B	C	C	C
Florida Flatwoods	--	B	C	C
Paragrass	B	C	C	C
Torpedograss	S	--	PC	C

## 10.3 Miscellaneous Tree Food Crops

**LABELED CROPS:** Cactus (fruit and pads), Palm (heart, leaves), Palm (oil)

**TYPES OF APPLICATION:** Those listed in Section 10.0

## 10.4 Non-Food Tree Crops

**LABELED CROPS:** Pine, Poplar, Eucalyptus, Christmas trees, All other non-food tree crops

**TYPES OF APPLICATION:** Those listed in Section 10.0

**NOTE:** Unless otherwise directed, do not apply this product as an over-the-top broadcast spray in plantations or tree crops.

Site preparation

**USE INSTRUCTIONS:** This product may be used for weed control prior to planting non-food tree crops.

**PRECAUTIONS, RESTRICTIONS:** Protect non-target plants from being sprayed with this product during site preparation application.

Directed Spray, Spot Treatment, Wiper Applicator

**USE INSTRUCTIONS:** This product may be used as a post-directed spray and spot treatment or applied with a wiper applicator around established poplar, eucalyptus, Christmas trees and other non-food tree crops.

**PRECAUTIONS, RESTRICTIONS:** Avoid contact of spray, drift or mist of this product with foliage or green bark of established Christmas trees and other pine trees. Desirable plants may be protected from the spray solution by using shields or coverings made of impermeable materials.

## 10.5 Pome Fruit

**LABELED CROPS:** Apple, Crabapple, Loquat, Mayhaw, Pear (including oriental pear), Quince

**TYPES OF APPLICATION:** Those listed in Section 10.0

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 1 day between last application and harvest in pome fruit crops.

#### 10.6 Stone Fruit

LABELED CROPS: Apricot, Cherry (sweet, tart), Nectarine, Olive, Peach, Plum/Prune (all types), Plumcot

TYPES OF APPLICATION: Those listed in Section 10.0. For olive groves, apply only as a directed spray.

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 17 days between last application and harvest in stone fruit crops.

Remove suckers and low-hanging limbs at least 10 days prior to application. Avoid application near trees with recent pruning wounds or other mechanical injury. Apply only near trees that have been planted in the orchard for 2 or more years. USE EXTREME CARE TO ENSURE THAT NO PART OF THE PEACH TREE IS CONTACTED WITH OVERSPRAY OR DRIFT OF THIS PRODUCT.

#### 10.7 Tree Nuts

LABELED CROPS: Almond, Beechnut, Betelnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Coconut, Filbert (hazelnut), Hickory nut, Macadamia, Pecan, Pine nut, Pistachio, Walnut (black, English)

TYPES OF APPLICATION: Those listed in Section 10.0

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 3 days between last application and harvest of tree nuts, except coconut. Allow 14 days between application and harvest of coconut.

#### 10.8 Tropical and Subtropical Trees and Fruits

LABELED CROPS: Ambarella, Atemoya, Avocado, Banana, Barbados cherry (acerola), Biriba, Blimbe,

Breadfruit, Cacao (cocoa) bean, Canistel, Carambola (starfruit), Cherimoya, Coffee, Custard apple, Dates, Durian, Feijoa, Figs, Governor's plum, Guava, Ilaça, Imbe, Imbu, Jaboticaba, Jackfruit, Longan, Lychee, Mamey apple, Mango, Mangosteen, Marmaladebox (genip), Mountain papaya, Noni (Indian Mulberry), Papaya, Pawpaw, Plantain, Persimmon, Pomegranate, Pulasan, Rambutan, Rose apple, Sapodilla, Sapote (black, mamey, white), Spanish lime, Soursop, Star apple, Sugar apple, Surinam cherry, Tamarind, Tea, Ti (roots and leaves), Wax jambu

TYPES OF APPLICATION: Those listed in Section 10.0, and as described below as a Bananacide (Bananas Only)

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 1 day between last application and harvest in banana, coffee, guava, papaya, and plantain crops. Allow a minimum of 14 days between last application and harvest for any other tropical or subtropical tree fruit listed. In coffee and banana, delay application 3 months after transplanting to allow the new coffee or banana plant to become established.

##### Bananacide (Banana Only)

USE INSTRUCTIONS: This product may be used to destroy banana plants infected with the Banana Bunchy Top Virus, as well as non-infected banana plants in order to establish disease free buffers around plantations. Remove all fruit from the plants within the treatment area prior to treatment. Inject 1/25 of a fluid ounce (1 milliliter) of this concentrated product (undiluted) for every 2 to 3 inches of pseudostem diameter of the banana plant. Make the injection at least one foot above the ground, except for very small plants, which can be injected vertically into the top. Any subsequent re-growth must also be destroyed. Mechanically destroy all plants and mats (or units) within a 4-foot radius around a treated mat.

For control of the Banana Bunchy Top Virus, it is critical that the grower follow a strict control program involving monitoring for diseased plants, spraying to control the aphid vector, and destruction of all infected mats (or units). An infected plant may not show symptoms of the banana bunchy top virus for up to 125 days, therefore it is critical that the entire mat (or unit) containing the diseased plant be destroyed immediately.

PRECAUTIONS, RESTRICTIONS: Do not apply more than 0.5 fluid ounce (15 milliliters) of this product, per mat (or unit). Remove all fruit from plants and mats (or units) prior to treatment. Do not harvest any fruit or plant materials from treated mats (or units) following injection. Do not allow livestock to consume treated plant materials. Following transplant of new banana plants into treated areas, allow plants to become established for 3 months before applying this product for weed control.

#### 10.9 Vine Crops

**LABELED CROPS:** Grapes (raisin, table, wine) Hops, Kiwi, Passion fruit **TYPES OF APPLICATION:** Those listed in Section 10.0

**USE INSTRUCTIONS:** Apply this product for weed control only when green shoots, canes or foliage are not in the spray zone.

In the northeast and Great Lakes regions, apply this product in grape vineyards prior to the end of the bloom stage in order to avoid crop injury, or apply using a shielded sprayer or wiper applicator.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 14 days between last application and harvest of vine crops. Do not use selective equipment in kiwi.

#### 11.0 PASTURE GRASSES, FORAGE LEGUMES AND RANGELANDS

**USE INSTRUCTIONS:** Refer to the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label for application rates of this product for specific weeds. When applied as directed, this product will control those annual and perennial grasses and broadleaf weeds. Application rates specified on this label for the control of tough weeds, or those specified on separate supplemental labeling for this product, supersede rates listed in the "ANNUAL WEEDS RATE SECTION", "PERENNIAL WEEDS RATE SECTION" and "WOODY BRUSH AND TREES RATE SECTION" of this label. Additional information on the control of tough weeds can be found in Fact Sheets published for this product.

##### 11.1 Alfalfa, Clover, and Other Forage Legumes

**LABELED CROPS:** Alfalfa, Clover, Kenaf, Kudzu, Lespedeza, Leucaena, Lupin, Sainfoin, Trefoil, Velvet bean, Vetch (all types)

**TYPES OF APPLICATION:** Preplant, At-Planting, Preemergence, Spot Treatment, Wiper Applicator, Preharvest (except Kenaf and Leucaena), Stand Removal

For use directions with Roundup Ready alfalfa, see the "ROUNDUP READY CROPS" section of this label.

Preplant, At-Planting, Preemergence

**USE INSTRUCTIONS:** This product may be applied before, during or after planting crops listed in this section, but prior to crop emergence.

**PRECAUTIONS, RESTRICTIONS:** Remove domestic livestock before application. Spot Treatment, Wiper Applicator

**USE INSTRUCTIONS:** This product may be applied as a spot treatment or over the top of crops listed in this section with a wiper applicator. See additional instructions on the use of wiper applicators in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label. Application may be repeated in the same area at 30-day intervals.

**PRECAUTIONS, RESTRICTIONS:** For spot treatment and use with a wiper applicator, apply in areas where the movement of domestic livestock can be controlled. Remove domestic livestock before application and wait 3 days after application before grazing livestock or harvesting. Do not treat more than 10 percent of the total field area at any one time.

Preharvest (Except Kenaf and Leucaena), Stand Removal

**USE INSTRUCTIONS:** This product may be applied as a broadcast application prior to harvest (except in kenaf and leucaena) in declining stands or any stand where severe crop injury or destruction is acceptable, or to remove established stands of any forage legumes listed in this section. Application may be made at any time of the year to control annual and perennial weeds, including quackgrass. For control of quackgrass, apply in the spring, late summer or fall when quackgrass is actively growing. Treatment for quackgrass must be followed by deep tillage for complete control. If the crop is to be harvested or grazed by livestock, use up to a maximum of 2 quarts per acre in alfalfa and up to 3 pints per acre in all other legumes listed on this label. For complete removal of established stands of clover, it may be necessary to use a higher application rate, as listed in the "PERENNIAL WEEDS RATE SECTION" of this label.

**PRECAUTIONS, RESTRICTIONS:** This application may destroy an alfalfa stand, and may severely

injure or destroy other crops such as clover. Remove domestic livestock before application. Make only one application to an existing stand of crop per year. The treated crop and weeds can be harvested and fed to livestock according to the application rates and intervals defined below. For application rates higher than those listed here, do not harvest for livestock feed or allow livestock to graze on treated foliage.

Crop	Maximum Single Preharvest Application Rate (Per acre)	Minimum Interval Between Application and Harvest or Livestock Grazing
Alfalfa	2 quarts	36 hours
All other legumes listed	3 Pints	3 days

Crops listed on this label may be planted into the treated area at any time; all other crops may be planted 30 days after application. Preharvest application on alfalfa grown for seed could result in a reduction in germination or vigor. Buyer and all users are responsible for any and all loss or damage in connection with the preharvest use of this product on alfalfa grown for seed.

#### 11.2 Conservation Reserve Program (CRP)

**TYPES OF APPLICATION:** Renovation (Rotating Out of CRP), Site Preparation, Postemergence Weed Control in Dormant CRP Grasses, Wiper Applicator

Renovation (Rotating Out of CRP), Site Preparation

**USE INSTRUCTIONS:** This product may be used to prepare CRP land for crop production. Refer to Federal, state or local use guides for CRP renovation information.

**PRECAUTIONS, RESTRICTIONS:** Crops listed on this label may be planted into the treated area at any time; all other crops may be planted 30 days after application.

Postemergence Weed Control in Dormant CRP Grasses, Wiper Applicator

**USE INSTRUCTIONS:** Apply this product to suppress competitive growth and seed production of undesirable vegetation on CRP land. Application may be made using a wiper applicator to control tall weeds or as a broadcast or spot treatment to dormant CRP grasses. For selective weed control using broadcast spray equipment, apply 12 to 16 fluid ounces of this product per acre in early spring before desirable CRP grasses, such as crested and tall wheatgrass, break dormancy and initiate green growth. Late fall application can be made after desirable perennial grasses have reached dormancy.

**PRECAUTIONS, RESTRICTIONS:** Some stunting of CRP perennial grasses will occur if broadcast application is made when plants are not dormant. No waiting period is required between application and grazing or harvesting for feed. Do not apply more than 3 quarts of this product per acre per year onto CRP land.

#### 11.3 Grass Seed and Sod Production

**LABELED CROPS:** Any grass (Gramineae family), except Corn, Sorghum, Sugarcane and those listed in the "CEREAL AND GRAIN CROPS" section of this label

**TYPES OF APPLICATION:** Preplant, At-Planting, Preemergence, Renovation, Removal of Established Stand, Site Preparation, Shielded Sprayer, Wiper Applicator, Spot Treatment, Creating Rows in Annual Ryegrass

Preplant, At-Planting, Preemergence, Renovation, Removal of Established Stand, Site Preparation

**USE INSTRUCTIONS:** This product controls most existing vegetation for purposes of renovating turf or forage grass seed production areas, or for establishing turfgrass grown for sod. It may be used to destroy undesirable grass vegetation when production fields are converted to alternate species or crops. Apply before, during, or after planting, or for renovation purposes. For maximum control of existing vegetation, delay planting to determine if any re-growth of underground plant parts occurs. Where existing vegetation is growing under mowed turf management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the herbicide spray. Where repeat treatments are necessary, sufficient re-growth must be attained prior to application. For warm-season



grasses, such as bermudagrass, summer or fall application provides the best control. Broadcast equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested. Application rates of up to 5 quarts per acre may be used to totally remove established stands of tough to kill grass species.

**PRECAUTIONS, RESTRICTIONS:** Do not disturb soil or underground plant parts before treatment. Delay tillage or renovation techniques, including vertical mowing, coring or slicing, for 7 days after application to allow for herbicide translocation into underground plant parts. If application rate is 3 quarts per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 3 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting. Crops listed on this label may be planted into the treated area at any time; all other crops may be planted 30 days after application. Application must be made prior to the crop emergence in order to avoid crop injury.

#### Shielded Sprayer

**USE INSTRUCTIONS:** Apply 1 to 3 quarts of this product in 10 to 20 gallons of water per acre to control weeds between grass seed rows. Uniform planting in straight rows will aid shielded sprayer application. Best results are obtained when the grass seed crop is small enough to easily pass by or through the protective shields. See additional instructions on the use of shielded sprayers in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator.

#### Wiper Applicator

**USE INSTRUCTIONS:** This product may be applied over the top of desirable grasses using a wiper applicator for the control of tall weeds. See additional instructions on the use of wiper applicators in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Droplets, mist, foam or splatter of the herbicide solution settling onto desirable vegetation may result in discoloration, stunting or destruction. Such damage shall be the sole responsibility of the applicator.

#### Spot Treatment

**USE INSTRUCTIONS:** Apply a 1 to 1.5-percent solution of this product using a hand-held sprayer to control weeds within established vegetation prior to heading of grasses grown for seed or to control sod remnants or other unwanted vegetation after sod is harvested.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area. Crop sprayed in treated area will be killed. Take care not to spray or allow spray to drift outside the target area to avoid unwanted crop destruction.

#### Creating Rows in Annual Ryegrass

**USE INSTRUCTIONS:** Apply 16 to 32 fluid ounces of this product per acre. Best results are obtained when application is made before ryegrass reaches 6 inches in height. Use the higher rate within this range when the ryegrass is greater than 6 inches in height. Set nozzle heights to allow the establishment of the desired row spacing. Use low-pressure nozzles, or drop nozzles designed to target the application over a narrow band.

**PRECAUTIONS, RESTRICTIONS:** Take care not to spray or allow droplets, spray fines, or drift to settle outside the treatment area to avoid unwanted crop destruction.

Grower assumes all responsibility for crop losses from misapplication.

#### 11.4 Pastures

**LABELED CROPS:** Any grass (Gramineae family) except Corn, Sorghum, Sugarcane and those listed in the "CEREAL AND GRAIN CROPS" section of this label, but including Bahiagrass, Bermudagrass, Bluegrass, Bromegrass, Fescue, Guinea grass, Kikuyu grass, Orchardgrass, Pangola grass, Ryegrass, Timothy, Wheatgrass

**TYPES OF APPLICATION:** Preplant, Preemergence, Pasture Renovation, Spot Treatment, Wiper

#### Applicator, Postemergence Weed Control (Broadcast Treatment)

##### Preplant, Preemergence, Pasture Renovation

**USE INSTRUCTIONS:** This product may be applied for weed control prior to planting or emergence of forage grasses. This product may also be used to control perennial pasture species listed on this label prior to re-planting.

**PRECAUTIONS, RESTRICTIONS:** If application rates total 3 quarts of this product per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 3 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting. Crops listed on this label may be planted into the treated area at any time; all other crops may be planted 30 days after application.

##### Spot Treatment, Wiper Applicator

**USE INSTRUCTIONS:** This product may be applied in pastures as a spot treatment or over the top of desired grasses using a wiper applicator to control tall weeds. Application may be repeated in the same area at 30-day intervals. See additional instructions on the use of wiper applicators in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** For spot treatment or use with a wiper applicator at rates of 3 quarts of this product per acre or less, the entire field or any portion of it may be treated. For spot treatment or wiper applicator use at rates above 3 quarts of this product per acre, no more than 10 percent of the field may be treated at any one time. To achieve maximum performance, remove domestic livestock before application and wait 7 days after application before grazing or harvesting for feed.

#### Postemergence Weed Control (Broadcast Treatments)

**USE INSTRUCTIONS:** This product may be applied to pastures to suppress competitive growth and seed production of annual weeds and undesirable vegetation. For selective weed control using broadcast spray equipment, apply 12 to 16 fluid ounces of this product per acre in early spring before desirable perennial grasses break dormancy and initiate green growth. Higher application rates to control tough-to-control weeds may be used; however, injury will occur if perennial grasses are no longer dormant. Late fall application can be made after perennial grasses have reached dormancy.

**PRECAUTIONS, RESTRICTIONS:** Some stunting of perennial grasses will occur if broadcast application is made when plants are not dormant. Higher application rates will cause stand reductions. No waiting period is required between application and grazing or harvesting for feed. Do not apply more than 3 quarts per acre per year onto pasture grasses except for renovation use described on this label. If replanting is needed due to severe stand reduction, wait at least 30 days after treatment prior to planting any crop not listed on this label.

#### 11.5 Rangelands

##### TYPES OF APPLICATION: Postemergence

**USE INSTRUCTIONS:** This product will control or suppress many annual weeds growing in perennial cool- and warm-season grass rangelands. Preventing viable seed production is critical to the successful control and invasion of annual grassy weeds in rangelands. Follow-up applications in sequential years can be used to eliminate most of the viable seeds. Delay grazing of treated areas to allow desirable perennials to grow, flower and re-seed in the treated area.

Apply 12 to 16 fluid ounces of this product to control or suppress many weeds, including downy brome, cheatgrass, cereal rye and jointed goatgrass in rangelands. Apply when most mature brome plants are in early flower and before the plants, including seedheads, turn color. Allowing for secondary weed flushes to occur in the spring following rain events further depletes the seed reserve and encourages perennial grass conversion on weedy sites. Apply in the fall to areas where spring moisture is usually limited and fall germination allows for good weed growth.

For medusahead, apply 16 fluid ounces of this product at the 3-leaf stage. Delaying application beyond this stage will result in reduced or unacceptable control. Controlled burning prior to application may be useful in eliminating the thatch layer produced by slowly decaying culms. Allow new growth to occur after burning before spraying. Repeat applications in subsequent years may be necessary to eliminate the seed bank before reestablishing desirable perennial grasses on medusahead-dominated rangeland.

**PRECAUTIONS, RESTRICTIONS:** Slight discoloration of the desirable grasses may occur, but they will re-green and re-grow under moist soil conditions as effects of this product wear off. Do not use ammonium sulfate when spraying rangeland grasses with this product. No waiting period between treatment and feeding or livestock grazing is required. Do not apply more than 3 quarts of this product per acre per year.

#### 12.0 ROUNDUP READY CROPS

ROUNDUP READY CROPS CONTAIN A PATENTED GENE THAT PROVIDES TOLERANCE TO GLYPHOSATE, THE ACTIVE INGREDIENT IN THIS PRODUCT. THIS PRODUCT WILL CAUSE SEVERE CROP INJURY OR DESTRUCTION AND YIELD LOSS IF APPLIED TO CROPS THAT ARE NOT GLYPHOSATE TOLERANT. AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, OR ANY DESIRABLE PLANTS THAT DO NOT CONTAIN A GLYPHOSATE TOLERANCE GENE, AS SEVERE PLANT INJURY OR DESTRUCTION WILL RESULT. Information on Roundup Ready crops may be obtained from your seed supplier or Monsanto representative. Roundup Ready crops must be purchased from an authorized licensed seed supplier. The instructions in the sections that follow, or those published separately on supplemental labeling for this product include all applications of this product that can be made onto the specified Roundup Ready crop during the complete cropping season. DO NOT combine these treatment instructions with those for crops in the "ANNUAL AND PERENNIAL CROPS" and "PASTURE GRASSES, FORAGE LEGUMES AND RANGELANDS" sections of this label that do not contain a glyphosate tolerance gene.

**NOTE:** Roundup Ready seed, and the method of selectively controlling weeds in a Roundup Ready crop, are protected under several U.S. Patents, including 5,352,605 and 5,633,435. A license to use Roundup Ready seed must be obtained prior to use. Monsanto retains ownership of the gene and process technologies, and the Purchaser of the seed receives the right to use the licensed genes and technologies subject to the limited use license conditions. Seed containing a Roundup Ready trait cannot be used for research and demonstration, reverse engineering or in connection with herbicide registration. Progeny seed containing the Roundup Ready trait cannot be saved for replanting or transferred to others for replanting. Contact your Authorized Monsanto Retailer for information on obtaining a limited use license.

**USE INSTRUCTIONS:** Refer to "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label for application rates for specific weeds. When applied as directed, this product will control the annual and perennial grasses and broadleaf weeds listed. Observe the maximum application rates and crop stage timings specified for individual Roundup Ready crops in the sections that follow.

Ground broadcast application - Apply this product in 5 to 20 gallons of spray solution per acre.

Carefully select proper nozzle and spray pressure to avoid spraying a fine mist. For best results with ground application equipment, use flat spray nozzles. Check for even distribution of spray droplets.

Aerial application- All treatments described in this section may be made using aerial application equipment, where appropriate, provided that the applicator complies with the precautions and restrictions specified on this label and on all supplemental labeling published separately for this product. Apply this product in 3 to 15 gallons of water per acre. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for important information on aerial application and procedures for avoiding spray drift that may cause injury to any vegetation not intended for treatment. Use of appropriate buffer zones will help prevent injury to adjacent vegetation.

**ATTENTION: AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT, TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS THAT DO NOT CONTAIN A GLYPHOSATE TOLERANCE GENE.**

**TANK MIXTURE:** Tank mixtures of this product with other herbicides, insecticides, fungicides, micronutrients or foliar fertilizers could result in reduced weed control or injury to Roundup Ready crops, when applied over the top of Roundup Ready crops. Read all labels for products used in the tank mixture, prior to use to determine the potential for crop injury. Always read and follow label directions for all products in the tank mixture. Use all products according to rates and timing specified on the product labeling. Always predetermine the compatibility of tank-mix products together in the carrier by mixing Master Label 69361-

small proportional quantities in advance. REPAR CORPORATION has not tested all tank-mix product formulations for compatibility, antagonism or product performance. Buyer and all users are responsible for any and all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not specifically identified on this label or in separate supplemental labeling or Fact Sheets for this product. See the "MIXING" section of this label for more information on tank mixtures.

Unless otherwise directed, nonionic surfactant may be added to the spray solution for application to Roundup Ready crops. The addition of certain surfactants to this product may result in some crop response including leaf speckling or leaf necrosis due to the surfactant added to the spray mixture. Refer to the individual Roundup Ready crop sections that follow, or separately published supplemental labeling, for additional precautions or restrictions. Refer to the "MIXING" section of this label for additional information on the use of surfactants. Ammonium sulfate may be added to spray solutions of this product for application to Roundup Ready crops. Refer to the "MIXING" section for instructions on the use of ammonium sulfate.

**Sprayer Preparation:** It is important that sprayer and mixing equipment be clean and free of pesticide residue before being used to apply this product. Follow the cleaning procedures specified on the label of the product(s) previously used. THOROUGHLY CLEAN THE SPRAY TANK AND ALL LINES AND FILTERS TO ELIMINATE POTENTIAL CONTAMINATION FROM OTHER HERBICIDES PRIOR TO MIXING AND APPLYING THIS PRODUCT.

**NOTE:** The following use directions are based on a clean start at planting by using a burndown application or tillage to control existing weeds before crop emergence. In no-till and stale seedbed systems, apply this product as a preplant burn-down treatment to control existing weeds prior to crop emergence. Some weeds, such as black nightshade, broadleaf signalgrass, sicklepod, Texas panicum, sandbur, annual morningglory, woolly cupgrass, shattercane, wild proso millet, burcumber, and giant ragweed with multiple germination times, or suppressed (stunted) weeds may require a second application of this product for complete control. Make second application after some re-growth has occurred and at least 10 days after a previous application of this product.

Application rates of this product specified on this label for the control of tough weeds, or those specified on separate supplemental labeling for this product, supersede rates in the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label. Additional information on the control of tough weeds can be found on Fact Sheets published for this product.

**PRECAUTIONS, RESTRICTIONS:** Observe the maximum application rates stated throughout this label. Maximum application rates apply to the use of this product combined with the use of any and all other herbicides containing glyphosate as the active ingredient, whether applied separately or as mixtures. Calculate the application rates (glyphosate acid equivalents) and ensure that the total use of this and other glyphosate-containing products does not exceed the stated maximum rate. See the "PRODUCT INFORMATION" section of this label for more information on Maximum Application Rates.

#### 12.1 Roundup Ready Alfalfa

**TYPES OF APPLICATION:** Preplant, At-planting, Preemergence, Postemergence (In-crop)

**USE INSTRUCTIONS:** Refer to the following table for the maximum application rates of this product.

Maximum Application Rates	
Combined total per year for all applications, including preplant During year of establishment	8 quarts per acre
Combined total per year for in-crop applications on newly Established and establishment stands	6 quarts per acre

**PRECAUTIONS AND RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for precautionary instructions regarding the use of this product in Roundup Ready crops. See the "PRODUCT INFORMATION" section of this label for more information on Maximum Application Rates.

**Preplant, At-Planting, Preemergence**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting Roundup Ready alfalfa.

**Postemergence (In-crop)**

**USE INSTRUCTIONS:** This product may be applied over the top of Roundup Ready alfalfa (in-crop) from emergence until 5 days prior to cutting. To maximize crop yield and quality potential of the forage and hay, apply this product after weeds have emerged but before alfalfa growth or re-growth interferes with spray coverage of the target weeds.

Refer to the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label for application rates for specific weeds. When applied as directed, this product will control these annual and perennial grasses and broadleaf weeds. This product will also suppress the parasitic weed Dodder (*Cuscuta* spp.) in Roundup Ready alfalfa. Repeat applications may be necessary for complete control.

**New Stand Establishment (Seeding Year)-**Due to the biology and breeding constraints of alfalfa, up to 10 percent of the seedlings may not contain a Roundup Ready gene and will not survive after the first application of this product. To eliminate the undesirable effects of stand gaps created by this loss of plants, make a single application of at least 1 quart of this product per acre at or before the 4-trifoliolate growth stage. Refer to the following tables for application rates during stand establishment (seeding year).

<b>NEW STAND ESTABLISHMENT (Seeding Year)</b> Application Rate	
Prior to First Cutting	
From emergence up to 4 trifoliolate leaves	1 to 2 quarts per acre
From 5 trifoliolate leaves up to 5 days before first Cutting	Up to 2 quarts per acre
After First Cutting	
In-crop application, per cutting, up to 5 days before cutting	Up to 2 quarts per acre

**Established Stands-**Refer to the following table for directions and maximum application rates for incrop applications to established stands of alfalfa (non-seeding year).

<b>ESTABLISHED STAND (Non-Seeding Year)</b> Application Rates	
In-crop applications, per cutting, up to 5 days Before cutting	Up to 2 quarts per acre

**PRECAUTIONS, RESTRICTIONS:** Where Roundup Ready alfalfa is grown with a companion or cover crop, or is over-seeded with a second species, in-crop (over-the-top) application of this product will eliminate the non-glyphosate tolerant species. Do not exceed 2 quarts per acre for any single in-crop application of this product. Sequential applications of this product must be at least 7 days apart. The combined total per year for all in-crop applications in both newly established (seeding year) and established stands (non-seeding year) must not exceed 6 quarts per acre. Remove domestic livestock before application. Wait a minimum of 5 days after application before grazing, cutting and feeding of forage and hay.

**TANK MIXTURES:** This product may be tank-mixed with the products listed in following sections. Ensure

that the specific product being used is labeled for application to alfalfa. Read and follow label directions for all products in the tank mixture.

**New Stand Establishment (Seeding Year):** This product may be applied postemergence (in-crop) over the top of Roundup Ready alfalfa in the seeding year at up to 2 quarts per acre in a tank-mix with the following herbicides. Apply after weeds have emerged, but before the alfalfa growth or re-growth interferes with spray coverage of the target weeds.

[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use on alfalfa:

clethodim, imazamox, imazethapyr, sethoxydim, quizalofop p-ethyl

Assure II, Poast, Prism, Pursuit, Raptor, SelectMAX]

[Optional statement: Pursuit or Raptor applied to seedling alfalfa may result in a temporary reduction in growth. Do not include crop oil concentrate or methylated seed oil in tank mixtures of this product with Pursuit or Raptor as unsatisfactory crop injury may result.]

#### Established Stands (Non-Seeding Year)

This product may be applied postemergence (in-crop) over the top of established stands of Roundup Ready alfalfa in tank mixtures described below according to the growing conditions of the crop.

**Actively growing alfalfa:** For control of emerged grasses and broadleaf weeds when alfalfa is actively growing, this product may be applied at up to 44 fluid ounces per acre in a tank mixture with the following herbicides.

[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use on alfalfa:

clethodim, imazamox, imazethapyr, sethoxydim, quizalofop p-ethyl Assure II, Poast, Prism, Pursuit, Raptor, SelectMAX]

[Optional statement: Do not include crop oil concentrate or methylated seed oil in tank mixtures of this product with Pursuit or Raptor as unsatisfactory crop injury may result.]

**Dormant alfalfa:** For control of emerged annual grasses and broadleaf weeds when alfalfa is dormant, this product may be applied at up to 44 fluid ounces per acre in a tank mixture with the following herbicides. Apply when the daily temperature remains above freezing.

[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use on alfalfa:

imazamox, imazethapyr, metribuzin, pronamide, propyzamide Kerb 50-W, Lexone, Pursuit, Raptor, Sencor]

[Optional statement: Do not include crop oil concentrate or methylated seed oil in tank mixtures of this product with Pursuit or Raptor as unsatisfactory crop injury may result.]

**PRECAUTIONS, RESTRICTIONS:** Tank mixtures of this product with other herbicides, insecticides, or fungicides may result in crop injury or reduced weed control. Do not apply to frozen or snow covered ground. Ensure that the specific product being used is labeled for application postemergence (in-crop) to alfalfa. Read and follow label directions of all products in the tank mixture. Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

#### 12.2 Roundup Ready Canola (Spring Varieties)

Roundup Ready spring canola is defined as those Roundup Ready canola varieties that are seeded in the spring and harvested in the fall and do not enter a winter dormancy period.

**TYPES OF APPLICATION:** Preplant, At-Planting, Preemergence, Postemergence (In-crop)

**USE INSTRUCTIONS:** Refer to the following table for the maximum application rates for this product with spring varieties of Roundup Ready canola.

Maximum Application Rates	
Total of all Preplant, At-Planting, Preemergence Applications	2 quarts per acre
Total of all In-crop Applications from emergence to 6-Leaf Stage	1 quart per acre

PRECAUTIONS AND RESTRICTIONS: See the "ROUNDUP READY CROPS" section of this label for precautionary instructions regarding the use of this product in Roundup Ready crops. See the "PRODUCT INFORMATION" section of this label for more information on Maximum Application Rates.

Preplant, At-planting, Preemergence

USE INSTRUCTIONS: This product may be applied before, during or after planting Roundup Ready canola.

PRECAUTIONS, RESTRICTIONS: Maximum quantity of this product that may be applied for all preplant, at-planting and preemergence applications combined is 2 quarts per acre per season.

Postemergence (In-crop)

USE INSTRUCTIONS: This product may be applied postemergence to spring varieties of Roundup Ready canola from emergence through the 6-leaf stage of development. Application made during bolting or flowering could result in crop injury and yield loss. To maximize yield potential, eliminate competing weeds early.

Single Application - Apply 16 to 24 fluid ounces per acre no later than the 6-leaf stage for the control of annual weeds. Avoid overlapping applications, which could result in temporary yellowing, delayed flowering, and/or growth reduction. Similar crop injury could result when more than 16 fluid ounces per acre is applied after the 4-leaf stage.

Sequential Application - Apply 16 fluid ounces per acre to 1 to 3-leaf canola followed by a sequential application at a minimum interval of 10 days, but no later than the 6-leaf stage. Sequential application works best for control of early emerging annual weeds and perennial weeds such as Canada thistle and quackgrass, or when more than one application is needed for adequate weed control.

PRECAUTIONS, RESTRICTIONS: No more than two in-crop (over-the-top) broadcast applications may be made from crop emergence through the 6-leaf stage of development and the total in-crop application must not exceed 32 fluid ounces of this product per acre. Allow a minimum of 60 days between last application and canola harvest.

### 12.3 Roundup Ready Canola (Winter Varieties)

Roundup Ready winter canola is defined as those Roundup Ready canola varieties that are seeded in early fall and harvested the following spring or summer. Winter canola varieties are intended to enter a cold period dormancy in the winter.

TYPES OF APPLICATION: Preplant, At-Planting, Preemergence, Postemergence (In-crop)

USE INSTRUCTIONS: Refer to the following table for the maximum application rates of this product with winter varieties of Roundup Ready canola.

Maximum Application Rates	
Total of all Preplant, At-Planting, Preemergence Applications	2 quarts per acre
Total of all In-crop Applications from emergence to canopy Closure or prior to bolting in the spring	1 quart per acre

PRECAUTIONS, RESTRICTIONS: See the "ROUNDUP READY CROPS" section of this label for precautionary instructions regarding the use of this product in Roundup Ready crops. See the "PRODUCT INFORMATION" section of this label for more information on Maximum Application Rates.

#### Preplant, At-Planting, Preemergence

USE INSTRUCTIONS: This product may be applied before, during or after planting Roundup Ready canola.

#### Postemergence (In-crop)

USE INSTRUCTIONS: This product may be applied to winter varieties of Roundup Ready canola from emergence to canopy closure in the fall and prior to bolting in the spring. Application made during or after bolting could result in crop injury and yield loss. To maximize yield potential, eliminate competing weeds early

Some weeds with multiple germination times, or suppressed (stunted) weeds, or weeds that have overwintered may require a sequential application of this product for control. Make second application after some weed re-growth has occurred and at least 60 days after a previous application of this product.

Single Application-Apply 24 to 32 fluid ounces of this product per acre in the fall when weeds are small and actively growing. Use the higher rate within this range when weed densities are high, when weeds have overwintered or when weeds become large and well established. Application of greater than 24 fluid ounces per acre prior to the 6-leaf stage may result in reduced crop growth in the fall. Avoid spray overlaps. Spray overlaps could result in temporary yellowing and/or growth reduction.

Sequential Application-Apply 16 to 32 fluid ounces of this product per acre to 2-leaf or larger canola in the fall, followed by a sequential application at the same rate and at a minimum interval of 60 days, but before bolting in the spring. Sequential application works best for control of early emerging annual weeds and winter emerging weeds such as downy brome, jointed goatgrass and ryegrass, and for weeds that have overwintered. This product will control or suppress most perennial weeds. For some perennial weeds, sequential application may be required to reduce competition with the crop.

PRECAUTIONS, RESTRICTIONS: No more than two over-the-top broadcast applications may be made from crop emergence up to the onset of bolting, and the total in-crop application must not exceed 64 fluid ounces of this product per acre. Application of greater than 24 fluid ounces per acre prior to the 6-leaf stage could result in reduced crop growth in the fall. Allow a minimum of 60 days between last application and harvest of canola grain. No waiting period is required between application and open grazing of livestock.

#### 12.4 Corn Hybrids with Roundup Ready 2 Technology

Corn hybrids with Roundup Ready 2 Technology include Roundup Ready Corn 2 and seed products displaying the Roundup Ready 2 Technology logo.

TYPES OF APPLICATION: Preplant, At-Planting, Preemergence, Postemergence (In-crop), Spot

Treatment, Preharvest, Post-harvest

USE INSTRUCTIONS: Refer to the following table for maximum application rates of this product with corn

hybrids with Roundup Ready 2 Technology.

Maximum Application Rates	
Combine total per year for all applications	8 quarts per acre
Total of all Preplant, At-planting, Preemergence applications	5 quarts per acre
Total of all In-crop applications from emergence through 48-inch Corn	3 quarts per acre
Maximum preharvest application rate after maximum kernel fill is Complete and the crop is physiologically mature (black layer Formed) until 7 days before harvest*	1 quart per acre



\*See PRECAUTIONS, RESTRICTIONS section for Preharvest application.

**PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for precautionary instructions regarding the use of this product in Roundup Ready crops. See the "PRODUCT INFORMATION" section of this label for more information on Maximum Application Rates. The use of the in-crop (over-the-top) rates described in these instructions on other than corn hybrids with Roundup Ready 2 Technology may cause crop injury and reduced yields.

Preplant, At-planting, Preemergence

**USE INSTRUCTIONS:** This product may be applied alone or in a tank mixture before, during or after planting.

**TANK MIXTURES:** This product may be tank-mixed with the products listed below. Ensure that the specific product being used is labeled for application prior to the emergence of corn. Read and follow label directions for all products in the tank mixture. Apply these tank mixtures in 10 to 20 gallons of water, or 10 to 60 gallons of nitrogen solution per acre.

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(Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use preplant, at-planting and/or preemergence to corn:

2,4-D, acetochlor, alachlor, atrazine, carfentrazone-ethyl, clopyralid, dicamba, diflufenzopyr, dimethenamid, dimethenamid-p, flufenacet, flumetsulam, flumiclorac pentyl ester, isoxaflutole, linuron, metolachlor, s-metolachlor, metribuzin, pendimethalin, rimsulfuron, simazine

Aim, Aim EC, Axiom, Balance, Balance PRO, Banvel, Bicep MAGNUM, Bicep II MAGNUM, Bicep Lite II MAGNUM, Bullet, Cinch, Cinch ATZ, Clarity, Define, Degree, Degree Xtra, Distinct, Dual MAGNUM, Dual II MAGNUM, Epic, Frontier, FulTime, Guardsman, Guardsman MAX, Harness, Harness Xtra, Harness Xtra 5.6L, Homet, Keystone, Keystone LA, Lariat, Leadoff, Linex, Lorox, Marksman, Me-Too-Lachlor II, Micro-Tech, Outlook, Prowl, Python, Python II, Radius, Resolve, Resource, Shark, Stalwart, Stalwart C, Stalwart Xtra, Surpass, TopNotch]

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**PRECAUTIONS, RESTRICTIONS:** Maximum quantity of this product that may be applied for all preplant, at-planting and preemergence applications combined is 5 quarts per acre per season. Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

**NOTE:** For maximum weed control, make a postemergence (in-crop) application of this product following the use of the preemergence residual products listed above.

Postemergence (In-crop)

**USE INSTRUCTIONS:** This product may be applied alone or in a tank mixture over the top of corn hybrids with Roundup Ready 2 Technology from emergence through the V8 stage (8 leaves with collars), or until corn height reaches 30 inches (free standing), whichever comes first. Use drop nozzles for optimum spray coverage and weed control when corn height is 24 to 30 inches. For corn heights 30 to 48 inches (free standing), apply this product using only ground application equipped with drop nozzles aligned to avoid spraying into the whorls of the corn plants. Single in-crop application of this product up to 48-inch corn must not exceed 3 pints per acre. Sequential in-crop applications of this product from emergence through 48 inches in height must not exceed 3 quarts per acre per growing season.

When applied as directed, this product will control annual grasses and broadleaf weeds listed on this label. Many perennial grasses and broadleaf weeds will be controlled or suppressed with one or more application of this product. Make a postemergence application of 24 to 32 fluid ounces of this product per acre before weeds exceed 4 inches in height (before they become competitive with the crop). Repeat this application before new flushes of weeds exceed 4 inches in height.

**TANK MIXTURES:** This product may be tank-mixed with the following products. Ensure that the specific product being used is labeled for application postemergence (in-crop) to corn. Read and follow label directions of all products in the tank mixture.

[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use postemergence (in-crop) to corn:

2,4-D, atrazine, acetochlor, alachlor, carfentrazone-ethyl, clopyralid, dicamba, diflufenzopyr, flumetsulam, flumiclorac pentyl ester, foramsulfuron, halosulfuron-methyl, iodosulfuron-methyl-sodium, mesotrione, nicosulfuron, rimsulfuron, thifensulfuron methyl, tropamezone

Aim EC, Banvel, Basis, Basis Gold, Bullet, Callisto, Clarity, Degree, Degree Xtra, Distinct, Equip, Harness, Harness Xtra, Harness Xtra 5.6L, Hornet, Impact, Marksman, Micro-Tech, Option, Resolve, Resource, Status]

Tank-Mix Partner	Maximum Height of Corn at Application
Degree	
Degree Xtra	
Harness	11 inches
Harness Xtra	
Harness Xtra 5.6L	
Bullet*	5 inches
Micro-Tech*	
Atrazine	12 inches

\*Bullet and Micro-Tech are not registered for use as a postemergence application in Texas.

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water may increase the performance of this product under hard water conditions, drought conditions or when tank mixed with Bullet® or Micro-Tech® herbicides.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 10 days between in-crop applications of this product. Allow a minimum of 50 days between application of this product in-crop and harvest of corn forage or grain. Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

#### Preharvest

**USE INSTRUCTIONS:** This product may be applied for annual and perennial weed control prior to crop harvest at use rates of up to 32 fluid ounces per acre. Make application at 35 percent grain moisture or less. Ensure that maximum kernel fill is complete and the corn is physiologically mature (black layer formed).

**PRECAUTIONS, RESTRICTIONS:** A preharvest application of this product may only be made if the combined total of previously applied over-the-top or drop nozzle applications does not exceed 64 fluid ounces of this product per acre. Allow a minimum of 7 days between a preharvest application and harvest or feeding of corn stover or grain.

#### Post-Harvest

**USE INSTRUCTIONS:** This product may be applied for weed control after corn harvest. Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used. Ensure that the specific product being used is labeled for post-harvest application in corn. Read and follow label directions of all products in the tank mixture.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

#### 12.5 Roundup Ready Cotton

**TYPES OF APPLICATION:** Preplant, At-Planting, Preemergence, Postemergence (In-crop), Selective Equipment (In-Crop), Preharvest

**USE INSTRUCTIONS:** Refer to the following table for maximum application rates of this product with Roundup Ready cotton.

Maximum Application Rates	
Combined total per year for all applications	8 quarts per acre
Total of all Preplant, At-Planting, Preemergence applications	5 quarts per acre
Total of all In-crop applications from ground cracking to Layby	4 quarts per acre
Maximum Preharvest application rate	2 quarts per acre
Combined total of all In-crop applications from Emergence through harvest	6 quarts per acre

**PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for precautionary instructions regarding the use of this product in Roundup Ready crops. The combined total application of this product from cotton emergence through harvest must not exceed 6 quarts per acre. Allow a minimum of 7 days between application and harvest. See the "PRODUCT INFORMATION" section of this label for more information on Maximum Application Rates.

Preplant, At-Planting, Preemergence

**USE INSTRUCTIONS:** This product may be applied before, during or after planting Roundup Ready cotton.

**TANK MIXTURES:** This product may be tank-mixed with 2,4-D and Clarity and applied prior to planting only. This product may be tank-mixed with the following products and applied prior to crop emergence.

Ensure that the specific product being used is labeled for application prior to the emergence of cotton. Read and follow label directions of all products in the tank mixture.

[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use prior to the emergence of cotton:

clomazone, diuron, flumioxazin, fluometuron, fomesafen, metolachlor, s-metolachlor, pendimethalin, prometryn, pyriithiobac-sodium

Caparol, Command, Cotoran, Cotton PRO, Dixex, Dual MAGNUM, Dual II MAGNUM, Karmex, Meturon, PARRLAY, Prowl, Prowl H2O, Relfex, Stalwart, Staple, Valor, Zorial]

**PRECAUTIONS, RESTRICTIONS:** Maximum quantity of this product that may be applied for all preplant, at-planting and preemergence applications combined is 5 quarts per acre per season. Refer to individual tank-mix product label for restrictions and precautions. Use according to the most restrictive precautionary statements for each product in the tank mixture.

Postemergence (In-crop)

**USE INSTRUCTIONS:** This product may be applied over the top Roundup Ready cotton (in-crop) at rates up to 1 quart per acre per application from the ground cracking stage until the 4-leaf (node) stage of development (until the fifth true leaf reaches the size of a quarter). NO MORE THAN TWO OVER-THE-TOP BROADCAST APPLICATIONS MAY BE MADE FROM CROP EMERGENCE THROUGH THE 4-LEAF (NODE) STAGE OF DEVELOPMENT. SEQUENTIAL OVER-THE-TOP OR POST-DIRECTED APPLICATIONS OF THIS PRODUCT IN-CROP MUST BE AT LEAST 10 DAYS APART AND COTTON MUST HAVE AT LEAST TWO NODES OF INCREMENTAL GROWTH BETWEEN APPLICATIONS.

Over-the-top application made after the 4-leaf (node) stage of development could result in boll loss, delayed maturity and/or yield loss.

**TANK MIXTURES:** This product may be tank-mixed with the following products and applied over the top of Roundup Ready cotton up to the 4-leaf stage. Ensure that the specific product being used is labeled for application postemergence (in-crop) to cotton. Read and follow label directions of all products in the tank mixture.

[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use postemergence (in-crop) to cotton:

clethodim, fluazifop-P-butyl, fomesafen, metolachlor, s-metolachlor, pyriithiobac-sodium, sethoxydim, quizalofop-P-ethyl

Assure II, Dual MAGNUM, Fusilade, Poast Plus, Select, Stalwart, Staple]

[Optional text: Staple may cause leaf yellowing and/or leaf crinkling when applied postemergence (in-crop) to Roundup Ready cotton. Dual Magnum and Stalwart applied over the top of Roundup Ready cotton may cause leaf injury in the form of necrotic spotting.]

Salvage Treatment-this treatment may be used after the 4-leaf stage of development and only where weeds threaten to cause the loss of the crop. Apply 1 quart per acre either as an over-the-top application or as a post-directed treatment sprayed higher on the cotton plants and over the weeds.

**NOTE:** SALVAGE TREATMENT WILL RESULT IN SIGNIFICANT BOLL LOSS, DELAYED MATURITY AND/OR YIELD LOSS. NO MORE THAN ONE SALVAGE TREATMENT MAY BE USED PER GROWING SEASON.

**PRECAUTIONS, RESTRICTIONS:** The maximum quantity of this product that may be applied for all incrop applications from ground-cracking to layby combined is 4 quarts per acre per season. DO NOT ADD ADDITIONAL SURFACTANT OR ADDITIVES CONTAINING SURFACTANT TO THIS PRODUCT (OTHER THAN THOSE CONTAINED IN ANY TANK-MIX PRODUCT) FOR OVER-THE-TOP APPLICATIONS TO ROUNDUP READY COTTON.

**Selective Equipment (In-crop)**

**USE INSTRUCTIONS:** This product may be applied using precision post-directed or hooded sprayers at rates up to 1 quart per acre per application to Roundup Ready cotton through layby. At this stage, use post-directed equipment to direct the spray to the base of the cotton plants. Avoid contact of the herbicide spray with the cotton leaves to the maximum extent possible. To minimize spray contact maintain low spray pressure (less than 30 pounds per square inch) and place nozzles in a low position, directing a horizontal spray pattern under the cotton leaves and onto weeds in the row. For best results, apply this product while weeds are small (less than 3 inches). See additional use instructions in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**TANK MIXTURES:** This product can be tank-mixed with the following products for in-crop application using precision post-directed or hooded sprayers. Ensure that the specific product being used is labeled for application postemergence (in-crop) to cotton. Read and follow label directions of all products in the tank mixture.

[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use postemergence (in-crop) to cotton:

carfentrazone-ethyl, diuron, flumioxazin, fluometuron, linuron, pendimethalin, prometryn, pyriithiobac-sodium, trifloxysulfuron-sodium

Aim, Caparol, Cotoran, Direx, Layby-Pro, Prowl H2O, Staple, Valor]

[Optional text: Staple may cause leaf yellowing and/or leaf crinkling when applied postemergence (in-crop) to Roundup Ready cotton.]

**PRECAUTIONS, RESTRICTIONS:** Maximum quantity of this product that may be applied for all in-crop applications from ground-cracking to layby combined is 4 quarts per acre per season. NO MORE THAN TWO APPLICATIONS OF THIS PRODUCT MAY BE MADE FROM THE 5-LEAF STAGE THROUGH LAYBY. SEQUENTIAL OVER-THE-TOP OR POST-DIRECTED APPLICATIONS OF THIS PRODUCT IN-CROP MUST BE AT LEAST 10 DAYS APART AND COTTON MUST HAVE AT LEAST TWO NODES

OF INCREMENTAL GROWTH BETWEEN APPLICATIONS. Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

#### Preharvest

**USE INSTRUCTIONS:** This product may be applied for annual and perennial weed control prior to crop harvest after 20 percent boll crack. Apply up to 2 quarts of this product per acre. **NOTE:** This product will not enhance the performance of harvest aids when applied to Roundup Ready cotton.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest of cotton. Do not apply this product for preharvest weed control to Roundup Ready cotton grown for seed, as a reduction in germination or vigor may occur. Buyer and all users are responsible for any and all loss or damage in connection with the preharvest use of this product on Roundup Ready cotton grown for seed. **DO NOT ADD ADDITIONAL SURFACTANT OR ADDITIVES CONTAINING SURFACTANT TO THIS PRODUCT FOR PREHARVEST APPLICATION TO ROUNDUP READY COTTON.**

**ATTENTION:** USE OF THIS PRODUCT IN ACCORDANCE WITH LABEL DIRECTIONS IS EXPECTED TO RESULT IN NORMAL GROWTH OF ROUNDUP READY COTTON, HOWEVER, DUE TO THE SENSITIVITY OF COTTON FRUITING TO VARIOUS ENVIRONMENTAL CONDITIONS, AGRONOMIC PRACTICES AND OTHER FACTORS IT IS IMPOSSIBLE TO ELIMINATE ALL RISKS ASSOCIATED WITH THIS PRODUCT, EVEN WHEN APPLICATIONS ARE MADE IN CONFORMANCE WITH THE LABEL SPECIFICATIONS. IN SOME CASES, THESE FACTORS CAN RESULT IN BOLL LOSS, DELAYED MATURITY AND/OR YIELD LOSS.

#### 12.6 Roundup Ready Flex Cotton

The instructions provided in this section are specific to, and may only be used with, varieties designated as Roundup Ready Flex cotton. Applications described in this section on other than Roundup Ready Flex cotton will cause crop injury and reduced yields. **DO NOT** combine the instructions in this section, with those in the "Roundup Ready Cotton" section of this label, or with any other Roundup Ready cotton or Roundup Ready Flex cotton instructions on labeling for this or any other glyphosate-containing products. Drift of this product from an application made to Roundup Ready Flex cotton onto adjacent fields of post 4-leaf (node) Roundup Ready cotton may cause extensive injury including boll loss, delayed maturity and/or yield loss.

**TYPES OF APPLICATION:** Preplant, At-Planting, Preemergence, Postemergence (In-crop), Preharvest

**USE INSTRUCTIONS:** Refer to the following table for maximum application rates of this product with Roundup Ready Flex cotton.

Maximum Application Rates	
Combined total per year for all applications	8 quarts per acre
Total of all Preplant, At-Planting, Preemergence	5 quarts per acre
Total of all In-crop applications from cracking to 60 percent open bolls	6 quarts per acre
Total of all In-crop applications between layby and 60 percent open bolls	2 quarts per acre
Total of all In-crop applications from 60 percent open bolls to 7 days Prior to harvest	2 quarts per acre
Total of all In-crop applications from emergence through harvest	6 quarts per acre

**PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for precautionary instructions regarding the use of this product in Roundup Ready crops. See the "PRODUCT INFORMATION" section of this label for more information on Maximum Application Rates.

Preplant, At-Planting, Preemergence

USE INSTRUCTIONS: This product may be applied before, during or after planting Roundup Ready Flex cotton.

TANK MIXTURES: This product may be tank-mixed with 2,4-D or Clarity and applied prior to planting only. This product may be tank-mixed with the following products and applied prior to crop emergence. Ensure that the specific product being used is labeled for application prior to planting or the emergence of cotton. Read and follow label directions of all products in the tank mixture.

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(Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use prior to the emergence of cotton:

clomazone, diuron, flumioxazin, fluometuron, fomesafen, metolachlor, s-metolachlor, pendimethalin, prometryn, pyriithiobac-sodium

Caparol, Command, Cotoran, Cotton-Pro, Direx, Dual MAGNUM, Dual 11 MAGNUM, Karmex, Meturon, PARRLAY, Prowl, Prowl H2O, Reflex, Stalwart, Staple, Valor, Zorial]

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PRECAUTIONS, RESTRICTIONS: Maximum quantity of this product that may be applied for all preplant, at-planting and preemergence applications combined is 5 quarts per acre per season. Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

#### Postemergence (In-crop)

USE INSTRUCTIONS: This product may be applied to control annual grasses and broadleaf weeds listed on this label in Roundup Ready Flex cotton. To maximize yield potential, eliminate competing weeds early. Many perennial weeds will be controlled or suppressed with one or more applications of this product. Use an initial application of 1 quart per acre to control or suppress 1 to 3 inch tall annual grasses and broadleaf weeds. This product may be applied postemergence to Roundup Ready Flex cotton using ground application equipment at rates up to 1.5 quarts per acre per application. In addition to broadcast application, post-directed spray equipment may be used to achieve more thorough weed coverage.

TANK MIXTURES: This product may be tank-mixed with the following products and applied postemergence (in-crop) over the top of Roundup Ready Flex cotton. Ensure that the specific product being used is labeled for application postemergence (in-crop) to cotton. Read and follow label directions of all products in the tank mixture.

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(Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use postemergence (in-crop) to cotton:

clethodim, fluazifop-P-butyl, fomesafen, metolachlor, s-metolachlor, pyriithiobac-sodium, quizalofop-p-ethyl, sethoxydim, trifloxysulfuron-sodium

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Assure II, Dual MAGNUM, Envoke, Fusilade, Poast Plus, Reflex, Select, Select MAX, Stalwart, Staple]

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[Optional text: Staple may cause leaf yellowing and/or leaf crinkling when applied postemergence (in-crop), in Roundup Ready Flex cotton. Dual Magnum and Stalwart applied over the top of Roundup Ready Flex cotton may cause leaf injury in the form of necrotic spotting.]

This product can be tank-mixed with the following products for in-crop application using precision post-directed or hooded sprayers. Ensure that the specific product being used is labeled for application postemergence (in-crop) to cotton. Read and follow label directions of all products in the tank mixture.

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(Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use postemergence (in-crop) to cotton:

carfentrazone-ethyl, diuron, flumioxazin, fluometuron, linuron, pendimethalin, prometryn, pyriithiobac-sodium, trifloxysulfuron-sodium

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Aim, Caparol, Cotoran, Direx, Envoke, Layby-Pro, PARRLAY, Prowl H2O, Staple, Valor]

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(Optional text: Staple may cause leaf yellowing and/or leaf crinkling when applied postemergence (in-crop) in

Roundup Ready Flex cotton.]

**PRECAUTIONS, RESTRICTIONS:** The maximum single, in-crop application rate of this product to Roundup Ready Flex cotton using ground application equipment is 1.5 quarts per acre. In-crop application rates above 1 quart per acre made alone or with the addition of other crop chemical products containing surfactant may cause a crop response including leaf speckling or leaf necrosis. Do not exceed a maximum rate of 1 quart of this product per acre when making application by air. Between layby and 60 percent open bolls, the maximum combined total application rate of this product is 2 quarts per acre. The maximum combined total of all applications of this product made from crop emergence to 60 percent open bolls must not exceed 6 quarts per acre. **DO NOT ADD ADDITIONAL SURFACTANT OR ADDITIVES CONTAINING SURFACTANT TO THIS PRODUCT FOR OVER-THE-TOP APPLICATION TO ROUNDUP READY FLEX COTTON.** Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

#### Preharvest

**USE INSTRUCTIONS:** This product may be applied to Roundup Ready Flex cotton up to 2 quarts per acre for annual and perennial weed control prior to harvest after 60 percent boll crack.

**NOTE:** This product will not enhance the performance of harvest aids when applied to Roundup Ready Flex cotton.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest of Roundup Ready Flex cotton. **DO NOT ADD ADDITIONAL SURFACTANT OR ADDITIVES CONTAINING SURFACTANT TO THIS PRODUCT FOR PREHARVEST APPLICATION TO ROUNDUP READY FLEX COTTON.**

**ATTENTION:** USE OF THIS PRODUCT IN ACCORDANCE WITH LABEL DIRECTIONS IS EXPECTED TO RESULT IN NORMAL GROWTH OF ROUNDUP READY FLEX COTTON. HOWEVER, DUE TO THE SENSITIVITY OF COTTON FRUITING TO VARIOUS ENVIRONMENTAL CONDITIONS, AGRONOMIC PRACTICES AND OTHER FACTORS, IT IS IMPOSSIBLE TO ELIMINATE ALL RISKS ASSOCIATED WITH THIS PRODUCT, EVEN WHEN APPLICATIONS ARE MADE IN CONFORMANCE WITH THE

**LABEL SPECIFICATIONS.** IN SOME CASES, THESE FACTORS CAN RESULT IN BOLL LOSS, DELAYED MATURITY AND/OR YIELD LOSS.

#### 12.7 Roundup Ready Soybean

**TYPES OF APPLICATION:** Preplant, At-Planting, Preemergence, Postemergence (In-crop), Preharvest, Post-Harvest

**USE INSTRUCTIONS:** Refer to the following table for maximum application rates of this product with Roundup Ready soybean.

Maximum Application Rates	
Combined total per year for all applications	8 quarts per acre
Total of all Preplant, At-Planting, Preemergence	5 quarts per acre
Total of all In-crop applications from cracking through Flowering (R2 stage soybean)	6 quarts per acre
Maximum preharvest application rate	1 quart per acre

**PRECAUTIONS/RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for precautionary instructions regarding the use of this product in Roundup Ready crops. The maximum combined total quantity of this product for all applications in a season is 8 quarts per acre. See the "PRODUCT INFORMATION" section of this label for more information on Maximum Application Rates.

#### Preplant, At-Planting, Preemergence

**USE INSTRUCTIONS:** This product may be applied before, during or after planting Roundup Ready soybean.

**TANK MIXTURES:** This product may be tank-mixed with 2,4-D, Banvel or Clarity and applied prior to planting only. This product may be tank-mixed with the following products and applied prior to crop

emergence. Ensure that the specific product being used is labeled for application prior to planting or the emergence of soybean. Read and follow label directions of all products in the tank mixture.

[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use preplant, at-planting and/or preemergence to soybean:

alachlor, atrazine, carfentrazone-ethyl, chlorimuron ethyl, clethodim, clomazone, cloransulam-methyl, dimethenamid-p, fenoxaprop, fluazifop-p-butyl, flufenacet, flumetsulam, flumiclorac pentyl ester, flumioxazin, fomesafen, imazaquin, imazethapyr, lactofen, linuron, metolachlor, smetolachlor, metribuzin, pendimethalin, stiltfentrazone, tribenuron methyl, trifluralin, quizalofop P-ethyl

Aim, Assure II, Axiom, Authority, Blanket, Boundary, Canopy, Canopy EX, Classic, Cobra, Command, Command Xtra, Domain, Dual MAGNUM, Dual II MAGNUM, FirstRate, Flexstar, Frontier, Fusion, Gangster, Gauntlet, INTRRO, Lexone, Linex, Linuron, Lorox, Lorox Plus, Me-Too-Lachlor, Micro-Tech, Outlook, Pendimax, Prowl, Prowl H2O, Pursuit, Pursuit Plus, Python, Reflex, Resource, Scepter, Select, Select MAX, Sencor, Spartan, Squadron, Steel, Treflan, Valor]

**PRECAUTIONS, RESTRICTIONS:** Maximum quantity of this product that may be applied for all preplant, at-planting and preemergence applications combined is 5 quarts per acre per season. Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

#### Postemergence (In-crop)

**USE INSTRUCTIONS:** This product may be used to control annual grasses and broadleaf weeds in Roundup Ready soybean. This product can be applied from emergence (cracking) through flowering (R2 stage soybean). R2 stage soybean ends when a pod 5 millimeters (3/16 inch) long appears at one of the four uppermost nodes on the main stem with a fully developed leaf (R3 stage). Refer to the "ANNUAL WEEDS RATE SECTION" of this label for application rates for specific annual weeds. An initial application rate of 1 quart per acre can be used to control or suppress most 2 to 8 inch tall weeds. Weeds will be 2 to 8 inches tall approximately 2 to 5 weeks after planting. If the initial application is delayed and weeds are larger, apply a higher rate of this product. This product may be used up to 2 quarts per acre in any single, in-crop application for control of annual weeds and where dense weed populations exist.

A 1 to 2-quarts per acre rate (single or multiple applications) of this product will control or suppress perennial weeds, including bermudagrass, Canada thistle, common milkweed, field bindweed, hemp dogbane, horsenettle, marestail (horseweed), nutsedge, quackgrass, rhizome johnsongrass, redvine, trumpetcreeper, swamp smartweed and wirestem muhly. For best results, allow perennial weed species to achieve at least 6 inches of growth before spraying with this product.

Under adverse growing conditions, including drought, hail, wind damage or a poor soybean stand that slows or delays canopy closure, a sequential application of this product may be necessary to control late flushes of weeds. **IN THE SOUTHERN STATES, A SEQUENTIAL APPLICATION OF THIS PRODUCT WILL BE REQUIRED TO CONTROL NEW FLUSHES OF WEEDS IN THE ROUNDUP READY SOYBEAN CROP.** To control giant ragweed, apply 1 quart of this product per acre when the weed is 8 to 12 inches tall to increase control and possibly avoid the need for a sequential application.

**TANK MIXTURES:** This product may be tank-mixed with the following products and applied postemergence (in-crop) over the top of Roundup Ready soybean. Ensure that the specific product being used is labeled for application postemergence (in-crop) to soybean. Read and follow label directions of all products in the tank mixture.

[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use postemergence (in-crop) to soybean:

acifluorfen, bentazon, chlorimuron ethyl, clethodim, cloransulam-methyl, fenoxaprop, fluazifop-p-butyl, flumiclorac pentyl ester, fomesafen, imazamox, imazethapyr, lactofen, pendimethalin, quizalofop P-ethyl, sethoxydem, thifensulfuron-methyl



Arrow, Assure II, Basagran, Classic, Cobra, Extreme, FirstRate, Flexstar, Fusilade DX, Fusion, Harmony GT XP, Poast, Poast Plus, Pursuit, Pursuit Plus, Raptor, Reflex, Select, Select MAX, Synchrony STS, Targa, Ultra Blazer]

**PRECAUTIONS, RESTRICTIONS:** The combined total application of this product from crop emergence through harvest must not exceed 3 quarts per acre. The maximum rate for any single in-crop application is 2 quarts per acre. The maximum combined total of this product that can be applied during flowering (R2 stage soybean) is 2 quarts per acre. Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture. In some cases, these tank-mix products will cause visual soybean injury.

#### Preharvest

**USE INSTRUCTIONS:** This product may be applied to Roundup Ready soybean for weed control prior to harvest. Apply up to 1 quart of this product per acre after pods have set and lost all green color.

**PRECAUTIONS, RESTRICTIONS:** Take care to avoid excessive seed shatter loss due to ground application equipment. Allow a minimum of 14 days between final application and harvest of soybean grain or feeding of soybean grain, forage or hay.

#### Post-Harvest

**USE INSTRUCTIONS:** This product may be applied for weed control after harvest of Roundup Ready soybean. Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used. Ensure that the specific product being used is labeled for weed control application after harvest of soybean. Read and follow label directions of all products in the tank mixture.

#### 12.8 Roundup Ready 2 Yield Soybean

**TYPES OF APPLICATION:** Preplant, At-Planting, Preemergence, Postemergence (In-crop), Preharvest, Post-Harvest

**USE INSTRUCTIONS:** Refer to the following table for maximum application rates of this product with Roundup Ready 2 Yield soybean.

Maximum Application Rates	
Combined total per year for all applications	8 quarts per acre
Total of all Preplant, At-Planting, Preemergence	5 quarts per acre
Total of all In-crop applications from cracking through Flowering (R2 stage soybean)	3 quarts per acre
Maximum preharvest application rate	1 quart per acre

**PRECAUTIONS/RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for precautionary instructions regarding the use of this product in Roundup Ready crops. The maximum combined total quantity of this product for all applications in a season is 8 quarts per acre. See the "PRODUCT INFORMATION" section of this label for more information on Maximum Application Rates.

#### Preplant, At-Planting, Preemergence

**USE INSTRUCTIONS:** This product may be applied before, during or after planting Roundup Ready 2 Yield soybean.

**TANK MIXTURES:** This product may be tank-mixed with 2,4-D, Banvel or Clarity and applied prior to planting only. This product may be tank-mixed with the following products and applied prior to crop emergence. Ensure that the specific product being used is labeled for application prior to planting or the emergence of soybean. Read and follow label directions of all products in the tank mixture.

[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use preplant, at-planting and/or preemergence to soybean:

alachlor, atrazine, carfentrazone-ethyl, chlorimuron ethyl, clethodim, clomazone, cloransulam-methyl, dimethenamid-p, fenoxaprop, fluazifop-p-butyl, flufenacet, flumetsulam, flumiclorac pentyl ester, flumioxazin, fomesafen, imazaquin, imazethapyr, lactofen, linuron, metolachlor, s-metolachlor, metribuzin, pendimethalin, sulfentrazone, tribenuron methyl, trifluralin, quizalofop P-ethyl

Aim, Assure II, Axiom, Authority, Blanket, Boundary, Canopy, Canopy EX, Classic, Cobra, Command, Command Xtra, Domain, Dual MAGNUM, Dual II MAGNUM, FirstRate, Flexstar, Frontier, Fusion, Gangster, Gauntlet, INTRRO, Lexone, Linex, Linuron, Lorox, Lorox Plus, Me-Too-Lachlor, Micro-Tech, Outlook, Pendimax, Prowl, Prowl H2O, Pursuit, Pursuit Plus, Python, Reflex, Resource, Scepter, Select, Select MAX, Sencor, Spartan, Squadron, Steel, Treflan, Valor]

**PRECAUTIONS, RESTRICTIONS:** Maximum quantity of this product that may be applied for all preplant, at-planting and preemergence applications combined is 5 quarts per acre per season. Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

#### Postemergence (In-crop)

**USE INSTRUCTIONS:** This product may be used to control annual grasses and broadleaf weeds in Roundup Ready 2 Yield soybean. This product can be applied from emergence (cracking) through flowering (R2 stage soybean). R2 stage soybean ends when a pod 5 millimeters (3/16 inch) long appears at one of the four uppermost nodes on the main stem with a fully developed leaf (R3 stage). Refer to the "ANNUAL WEEDS RATE SECTION" of this label for application rates for specific annual weeds. An initial application rate of 1 quart per acre can be used to control or suppress most 2 to 8 inch tall weeds. Weeds will be 2 to 8 inches tall approximately 2 to 5 weeks after planting. If the initial application is delayed and weeds are larger, apply a higher rate of this product. This product may be used up to 2 quarts per acre in any single, in-crop application for control of annual weeds and where dense weed populations exist.

A 1 to 2-quarts per acre rate (single or multiple applications) of this product will control or suppress perennial weeds, including bermudagrass, Canada thistle, common milkweed, field bindweed, hemp dogbane, horsenettle, marestail (horseweed), nutsedge, quackgrass, rhizome johnsongrass, redvine, trumpetcreeper, swamp smartweed and wirestem muhly. For best results, allow perennial weed species to achieve at least 6 inches of growth before spraying with this product.

Under adverse growing conditions, including drought, hail, wind damage or a poor soybean stand, that slows or delays canopy closure, a sequential application of this may be necessary to control late flushes of weeds. **IN THE SOUTHERN STATES, A SEQUENTIAL APPLICATION OF THIS PRODUCT WILL BE REQUIRED TO CONTROL NEW FLUSHES OF WEEDS IN THE ROUNDUP READY 2 YIELD SOYBEAN CROP.** To control giant ragweed, apply 1 quart of this product per acre when the weed is 8 to 12 inches tall to increase control and possibly avoid the need for a sequential application.

**TANK MIXTURES:** This product may be tank-mixed with the following products and applied postemergence (in-crop) over the top of Roundup Ready 2 Yield soybean. Ensure that the specific product being used is labeled for application postemergence (in-crop) to soybean. Read and follow label directions of all products in the tank mixture.

(Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use postemergence (in-crop) to soybean:

acifluorfen, bentazon, chlorimuron ethyl, clethodim, cloransulam-methyl, fenoxaprop, fluazifop-p-butyl, flumiclorac pentyl ester, fomesafen, imazamox, imazethapyr, lactofen, pendimethalin, quizalofop P-ethyl, sethoxydem, thifensulfuron-methyl

Arrow, Assure II, Basagran, Classic, Cobra, Extreme, FirstRate, Flexstar, Fusilade DX, Fusion, Harmony GT XP, Poast, Poast Plus, Pursuit, Pursuit Plus, Raptor, Reflex, Select, Select MAX, Synchrony STS, Targa, Ultra Blazer]

**PRECAUTIONS, RESTRICTIONS:** The combined total application of this product from crop emergence through harvest must not exceed 3 quarts per acre. The maximum rate for any single, in-crop application

is 2 quarts per acre. The maximum combined total of this product that can be applied during flowering (R2 stage soybean) is 2 quarts per acre. Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture. In some cases, these tank-mix products will cause visual soybean injury.

#### Preharvest

**USE INSTRUCTIONS:** This product may be applied to Roundup Ready 2 Yield soybean for weed control prior to harvest. Apply up to 1 quart of this product per acre after pods have set and lost all green color.

**PRECAUTIONS, RESTRICTIONS:** Take care to avoid excessive seed shatter loss due to ground application equipment. Allow a minimum of 14 days between final application and harvest of soybean grain or feeding of soybean grain, forage or hay.

#### Post-Harvest

**USE INSTRUCTIONS:** This product may be applied for weed control after harvest of Roundup Ready 2 Yield soybean. Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used. Ensure that the specific product being used is labeled for weed control application after harvest of soybean. Read and follow label directions of all products in the tank mixture.

#### 12.9 Roundup Ready Sugar Beet

**TYPES OF APPLICATION:** Preplant, At-Planting, Preemergence, Postemergence (In-crop)

**USE INSTRUCTIONS:** Refer to the following table for maximum application rates of this product with Roundup Ready sugar beet.

Maximum Application Rates	
Combined total per year for all applications	8 quarts per acre
Total of all Preplant, At-Planting, Preemergence applications	5 quarts per acre
Total of all applications made from emergence through The 8-leaf stage	2.5 quarts per acre
Total of all applications made after the 8-leaf stage and Up to canopy closure	2 quarts per acre

**PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for precautionary instructions regarding the use of this product in Roundup Ready crops. The maximum combined total quantity of this product for all applications in a season is 8 quarts per acre. See the "PRODUCT INFORMATION" section of this label for more information on "Maximum Application Rates."

#### Preplant, At-Planting, Preemergence

**USE INSTRUCTIONS:** This product may be applied before, during or after planting Roundup Ready sugar beet.

**TANK MIXTURES:** This product may be tank-mixed with the following products and applied prior to crop emergence. Ensure that the specific product being used is labeled for application prior to emergence of sugar beet. Read and follow label directions of all products in the tank mixture.

[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use preplant, at-planting and/or preemergence to sugar beet:

ethofumesate

Norton SC]

#### Postemergence (In-Crop)

**USE INSTRUCTIONS:** This product may be applied over the top of Roundup Ready sugar beet for control of annual grasses and broadleaf weeds from emergence to 30 days prior to harvest. To maximize yield potential eliminate competing weeds early. Up to 4 sequential applications of this product may be made with at least 10 days between applications. This product will control or suppress most perennial weeds. For some perennial weeds, repeat applications may be required to eliminate crop competition throughout the growing season. Refer to the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label for application rates for specific weeds.

**TANK MIXTURES:** This product may be tank-mixed with the following products and applied postemergence (in-crop) over the top of Roundup Ready sugar beet. Ensure that the specific product being used is labeled for application postemergence (in-crop) to sugar beet. Read and follow label directions of all products in the tank mixture

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[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use post emergence (in-crop) to sugar beet:

clethodim, clopyralid, desmedipham, dimethenamid, ethofumesate, s-metolachlor, phenmedipham, quizalofop-p-ethyl, trisulfuron-methyl

Assure II, Betamix, Betanex, Dual MAGNUM, Norton SC, Outlook, Progress, Select, Stinger, Upbeet]

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[Optional statement: Betamix, Betanex, Norton SC and Progress can cause significant sugar beet injury. Refer to these product labels for crop injury precautions.]

**PRECAUTIONS, RESTRICTIONS:** The combined total application of this product from crop emergence through harvest must not exceed 4.5 quarts per acre. The maximum rate for any single application from crop emergence until the 8-leaf stage is 1.5 quarts per acre. The maximum rate for any single application between the 8-leaf stage and canopy closure is 1 quart per acre. Allow a minimum of 30 days between last application and sugar beet harvest. Tank mixtures of this product with herbicides, insecticides or fungicides may result in crop injury or reduced weed control. Refer to individual tank mixture product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

### 13.0 NON-CROP USES AROUND THE FARMSTEAD

**TYPES OF USES:** Farmstead Weed Control, Trim-and-Edge, Greenhouse/Shadehouse, Chemical Mowing, Cut Stump, Habitat Management

**USE INSTRUCTIONS:** Refer to the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label for application rates for specific weeds. When applied as directed, this product will control those annual and perennial grasses and broadleaf weeds. Application rates of this product specified in the following sections, or on separate supplemental labeling or Fact Sheets published for this product, on how to control tough weeds, supersede rates in the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label.

#### 13.1 Farmstead Weed Control, Trim-And-Edge

**USE INSTRUCTIONS:** This product may be used to control annual weeds, perennial weeds and woody brush found in any part of the farmstead, including around building foundations and equipment storage areas, along and in fences, in dry ditches and canals, along ditchbanks, driveways, farm roads, farmyards, fencerows, parking areas, rangeland, rights-of-way, shelterbelts, storage areas and prior to planting landscape ornamentals.

**TANK MIXTURES:** This product may be tank-mixed with the following products, provided that the specific product used is labeled for use on these non-crop sites. Refer to the individual product labels for approved farmstead sites and application rates. Read and follow label directions of all products in the tank mixture.

[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use on these non-crop sites:

2,4-D, bromacil, chlorosulfuron, dicamba, diuron, imazapic, imazapyr, metsulfuron-methyl, oryzalin, oxadiazon, pendimethalin, proflam, simazine, sulfometuron-methyl

Aresnal, Banvel, Barricade 65WG, Clarity, Diuron, Endurance, Escort XP, Karmex DF, Krovar I DF, Oust, Pendulum 3.3 EC, Pendulum WDG, Plateau, Princep DF, Princep 4L, Ronstar, Sahara DG, Simazine, Surflan AS Specialty, Telar DF, Vanquish]

For annual weeds, use 1 quart of this product per acre when weeds are less than 6 inches tall, 1.5 quarts per acre when weeds are 6 to 12 inches tall and 2 quarts per acre when weeds are greater than 12 inches tall. For perennial weeds, apply 2 to 5 quarts per acre in these tank mixes. For application of these tank mixtures using backpack sprayers, handguns or other hand-held applicators, see the "ANNUAL WEEDS-HAND-HELD OR BACKPACK EQUIPMENT" section of this label for the required concentration of this product in the mix.

PRECAUTIONS, RESTRICTIONS: Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

### 13.2 Greenhouse/Shadehouse

USE INSTRUCTIONS: This product may be used to control weeds in and around greenhouses and shadehouses.

PRECAUTIONS, RESTRICTIONS: Desirable vegetation must not be present during application and air circulation fans must be turned off until after the application has dried. Do not use in residential greenhouses.

### 13.3 Chemical Mowing

USE INSTRUCTIONS: This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Apply 6 fluid ounces of this product per acre when treating Kentucky bluegrass. Apply 8 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass, bahiagrass or quackgrass covers. Apply 16 fluid ounces of this product per acre when treating bermudagrass. Apply 64 fluid ounces of this product per acre when treating torpedograss or paragrass. Make all applications in 10 to 20 gallons of spray solution per acre. Chemical mowing application may be made along farm ditches and other parts of farmsteads.

PRECAUTIONS, RESTRICTIONS: Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

### 13.4 Cut Stump

TYPES OF USES: Treating cut stumps in any non-crop site listed on this label

USE INSTRUCTIONS: This product will control re-growth of cut stumps and re-sprouts of many types of woody brush and tree species, some of which are listed below. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or re-sprouts close to the soil surface. Apply a 50 to 100 percent solution of this product to the freshly cut surface immediately after cutting. Delays in application could result in reduced performance. For best results, apply during periods of active growth and full leaf expansion.

Alder	Oak	Reed, giant	Tan oak
Eucalyptus	Pepper, Brazilian	Saltcedar	Willow
Madrone	Pine, Austrian	Sweetgum	

PRECAUTIONS, RESTRICTIONS: Do not make a cut stump applications when the roots of desirable woody brush or trees may be grafted to the roots of the cut stump. Some sprouts, stems, or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems/trees when one or more trees sharing common roots are treated.

### 13.5 Habitat Management

**TYPES OF USES:** Habitat Restoration and Maintenance, Wildlife Food Plots Habitat Restoration and Maintenance

**USE INSTRUCTIONS:** This product may be used to control exotic and other undesirable vegetation in habitat management areas. Application can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broad-spectrum vegetation control requirements in habitat management areas. Spot treatment can be used to selectively remove unwanted plants for habitat maintenance and enhancement.

#### Wildlife Food Plots

**USE INSTRUCTIONS:** This product may be used as a site preparation treatment to control annual and perennial weeds prior to planting wildlife food plots. Any wildlife food species may be planted after applying this product, or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait 7 days after application before tillage.

**PRECAUTIONS, RESTRICTIONS:** There are no rotational restrictions for planting any wildlife food species or for allowing native species to repopulate the area following applications of this product.

### 14.0 ANNUAL WEEDS RATE SECTION

When water carrier volumes are between 16 and 40 gallons per acre for ground application and between 6 and 15 gallons per acre for aerial application, the following use rates will control the annual weeds listed in the "ANNUAL WEEDS RATE TABLE" that follows.

- 1 quart per acre - grass and broadleaf annual weeds less than 6 inches in height or circumference and vines less than 3 inches in length.
- 3 pints per acre - grass and broadleaf annual weeds 6 to 12 inches in height or circumference and vines 3 to 6 inches in length.
- 2 quarts per acre - grass and broadleaf annual weeds greater than 12 inches in height or circumference and vines greater than 6 inches in length.

WHEN WATER CARRIER VOLUMES ARE BETWEEN 3 AND 15 GALLONS PER ACRE FOR GROUND APPLICATION AND BETWEEN 3 AND 5 GALLONS PER ACRE FOR AERIAL APPLICATION, USE THE RATES SPECIFIED FOR INDIVIDUAL WEEDS AS FOLLOW IN THE "ANNUAL WEEDS RATE TABLE".

Apply to actively growing annual weeds. Annual weeds are generally easiest to control when they are small.

Older, mature (hardened) annual weed species may require higher rates than specified in this table even if they meet the size requirements. This product may be used up to 64 fluid ounces per acre for tough-to-control annual weeds and where heavy weed densities exist. Follow all precautions and restrictions, including the maximum application rates and crop stage timings specified in the instructions for the crops, including Roundup Ready crops, and use sites listed on this label.

Maximum size refers to the maximum plant height, length of runners for vines, or circumference of rosette plants in inches.

Do not tank-mix with soil residual herbicides when using these rates unless otherwise specified.

**ANNUAL WEEDS RATE TABLE**  
(Alphabetically by Species)  
RATE

(Fluid Ounces Per Acre)  
WEED SPECIES

	16	24	32	40	48
	(Maximum Size (in inches))				
Ammannia, purple	3	6	12	-	18
Anode, spurred	-	2	3	5	8
Barley	18	18+	-	-	-
Barnyardgrass	-	3	6	7	9
Basle, fivehook	-	-	6	-	-
Beggarweed, Florida	-	5	8	-	-
Bittercress	12	20	-	-	-
Bluegrass, annual	10	-	-	-	-
Bluegrass, bulbous	6	-	-	-	-
Brome, downy <sup>1,2</sup>	6	12	-	-	-
Brome, Japanese	6	12	24	-	-
Browntop panicum	6	8	12	-	24
Buckwheat, wild <sup>3</sup>	-	1	2	-	-
Burcucumber	-	6	12	-	18
Buttercup	12	20	-	-	-
Carolina geranium	-	-	4	-	9
Carpetweed	-	6	12	-	-
Cheat <sup>2</sup>	6	20	-	-	-
Chervil	20	-	-	-	-
Chickweed	-	12	18	-	-
Cocklebur	12	18	24	-	36
Copperleaf, hophornbeam	-	2	4	-	6
Copperleaf, Virginia	-	2	4	-	6
Coreopsis, plains	-	6	12	-	18
Corn, volunteer	6	12	20	-	-
Corn speedwell	12	-	-	-	-
Crabgrass	3	6	12	-	-
Crowfootgrass	-	-	6	-	12
Cutleaf evening primrose	-	-	3	-	6
Devilscaw (unicorn plant)	-	3	6	-	-
Dwarf dandelion	12	-	-	-	-
Eastern manna grass	8	12	-	-	-
Eclipta	-	4	8	12	-
Fall panicum	4	-	6	-	12
Falsedandelion	-	20	-	-	-
Falseflax, smallseed	12	-	-	-	-
Fiddleneck	-	6	12	-	-
Field pennycress	6	12	-	-	-
Filaree	-	-	6	-	12
Fleabane, annual	6	20	-	-	-
Fleabane, hairy ( <i>Conyza bonariensis</i> )	-	-	6	-	10
Fleabane, rough	3	6	12	-	-
Florida pusley	-	-	4	-	6
Foxtail, giant, bristly, yellow	6	12	-	-	-
Foxtail, Carolina	10	-	-	-	-
Foxtail, green	12	-	-	-	-
Goatgrass, jointed	6	12	-	-	-
Goosegrass	-	3	6	-	12
Grain sorghum (mild)	6	12	20	-	-
Groundcherry	-	3	6	-	9
Groundsel, common	-	6	10	-	-
Hemp sesbania	-	2	4	6	8
Henbit	-	-	6	-	12
Horseweed/ Maretail ( <i>Conyza canadensis</i> )*	-	6	12	-	18
Itchgrass	6	8	12	-	18
Jimsonweed	-	-	12	-	18

Johnsongrass, seedling	6	12	18	-	24	
Junglerice	-	3	6	7	9	
Knotweed	-	-	6	-	12	
Kochia <sup>4</sup>	-	3 to 6	12	-	-	
Lambsquarters*	-	6	12	-	20	
Little barley	6	12	-	-	-	
London rocket	6	-	24	-	-	
Mayweed	-	2	6	12	18	
Morningglory, annual ( <i>Ipomoea spp</i> )	-	-	3	-	6	
Mustard, blue	6	12	18	-	-	
Mustard, tansy	6	12	18	-	-	
Mustard, tumble	6	12	18	-	-	
Mustard, wild	6	12	18	-	-	
Nightshade, black	-	4	6	-	12	
Nightshade, hairy	-	4	6	-	12	
Oats	3	6	18	-	-	
Pigweed, Palmer*	-	12	18	24	-	
Pigweed species*	-	12	18	24	-	
Prickly lettuce	-	6	12	-	-	
Purslane	-	-	3	-	6	
Ragweed, common*	-	6	12	-	18	
Ragweed, giant*	-	6	12	-	18	
Red rice	-	-	4	-	-	
Rye, volunteer/cereal <sup>2</sup>	6	18	18+	-	-	
Ryegrass species*	-	-	6	-	12	
Sandbur, field	6	12	-	-	-	
Sandbur, longspine	6	12	-	-	-	
Shattercane	6	12	20	-	-	
Shepherd's-purse	6	12	-	-	-	
Sicklepod	-	2	4	-	8	
Signalgrass, broadleaf	-	3	6	7	9	
Smartweed, ladythumb	-	-	6	-	9	
Smartweed, Pennsylvania	-	-	6	-	9	
Sowthistle, annual	-	-	6	-	12	
Spanishneedles	-	-	6	-	12	
Speedwell, purslane	12	-	-	-	-	
Sprangletop	6	12	20	-	-	
Spurge, prostrate	-	6	12	-	-	
Spurge, spotted	-	6	12	-	-	
Spurry, umbrella	6	-	-	-	-	
Stinkgrass	-	12	-	-	-	
Sunflower	12	18	-	-	-	
Swinecress	-	5	12	-	-	3 3 3 3
Teaweed/ Prickly sida	-	2	4	-	6	3 3 3 3
Texas panicum	6	8	12	24	24	3 3 3 3
Thistle, Russian <sup>5</sup>	-	6	12	-	-	3
Velvetleaf	-	-	6	-	12	3 3 3 3
Virginia pepperweed	-	18	-	-	-	3 3 3 3
Waterhemp*	-	-	6	-	12	3 3 3 3
Wheat <sup>2</sup>	6	12	18	-	-	3 3 3 3
Wheat, (overwintered)	-	6	12	-	18	3
Wild oats	3	6	10	-	-	3 3 3 3
Wild proso millet	-	6	12	-	18	3 3 3 3
Witchgrass	-	12	-	-	-	3
Woolly cupgrass	-	6	12	-	-	3 3 3 3
Yellow rocket	-	12	20	-	-	3 3 3 3



<sup>1</sup>For control of downy brome in no-till systems, use 24 fluid ounces per acre.

<sup>2</sup>Performance is better if application is made before this weed reaches the boot stage of growth.

<sup>3</sup>Use 24 fluid ounces per acre of this product to control wild buckwheat in the cotyledon to 2-leaf stage. Use 32 fluid ounces per acre to control 2- to 4-leaf wild buckwheat. For improved control of wild buckwheat over 2 inches in size, use sequential treatments of 32 fluid ounces followed by 32 fluid ounces of this product per acre.

<sup>4</sup>Do not treat kochia in the button stage.

<sup>5</sup>Control of Russian thistle may vary based on environmental conditions and spray coverage. Whenever possible, a tank mixture with 2,4-D as described below may improve control.

\* A glyphosate resistant biotype has been confirmed. For additional information, refer to the "WEED RESISTANCE MANAGEMENT" section of this label. You may also visit on the Internet [www.weedscience.org](http://www.weedscience.org) or [www.weedresistancemanagement.com](http://www.weedresistancemanagement.com), or contact your Repar-Glypho, LLC, representative.

#### 14.1 Annual Weeds-Tank Mixtures with 2,4-D or Dicamba or Tordon 22K

Better control of certain tough weeds can be achieved by tank-mixing this product with 0.25 pound of dicamba, 0.5 pound of 2,4-D or 1 to 2 fluid ounces of Tordon 22K per acre. These other herbicides, combined with the rates of this product specified in the "ANNUAL WEEDS RATE TABLE" above, will control the following weeds up to the maximum height or length indicated: 6 inches - prickly lettuce, mare's tail/horseweed, morning glory, kochia (dicamba only) wild buckwheat (Tordon 22K only); 12 inches - cocklebur, lambsquarters, pigweed, Russian thistle (2,4-D only).

At rates given in the "ANNUAL WEEDS RATE SECTION", this product will control the following weeds up to a maximum height or length of 6 inches: common ragweed, giant ragweed, Pennsylvania smartweed, and velvetleaf. For better control, tank-mix this product with 0.5 pound of 2,4-D per acre.

Ensure that the specific product being used is labeled for application at the desired site. Follow all precautions and limitations on the tank-mix product label, including application timing restrictions, soil restrictions, minimum re-cropping interval and rotational guidelines. Use according to the more restrictive label requirements. Some crop injury may occur if dicamba or Tordon 22K is applied within 45 days of planting.

#### 14.2 Annual Weeds-Hand-Held or Backpack Equipment

For control of weeds listed in the "ANNUAL WEEDS RATE TABLE" above, apply a 0.5-percent solution of this product to weeds less than 6 inches in height or runner length. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds. For annual weeds over 6 inches tall, or unless otherwise specified, use a 1-percent solution.

For best results, use a 2-percent solution on harder-to-control perennials, such as bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle.

When using application methods that result in less than complete coverage, use a 5-percent solution for annual and perennial weeds, and a 5 to 10-percent solution for woody brush and trees.

#### 14.3 Annual Weeds-Tank Mixtures with Atrazine for Fallow and Reduced Tillage Systems

For use only in Colorado, Kansas, Nebraska, Oklahoma, Oregon, South Dakota, and Washington. In Oregon and Washington, do not exceed 1 pound of atrazine per acre.

Application of 24 to 28 fluid ounces of this product plus 1 to 2 pounds of atrazine per acre will control the following weeds: barnyardgrass (requires 28 fluid ounces for control), downy brome, green foxtail, lambsquarters, prickly lettuce, tansy mustard, pigweed, field sandbur, stinkgrass, Russian thistle, volunteer wheat, witchgrass and kochia (add 0.12 pound of dicamba for control).

Ensure that the specific atrazine or dicamba product being used is labeled for application at the desired site. Follow all precautions and limitations on the tank mix product's label, including application timing restrictions, soil restrictions, minimum re-cropping interval and rotational guidelines.

#### 15.0 PERENNIAL WEEDS RATE SECTION

Apply to actively growing perennial weeds.

NOTE: If weeds have been mowed or tilled, do not treat until plants have resumed active growth and have reached the specified stage.

Repeat treatments may be necessary to control weeds regenerating from underground parts or seed. Repeat treatments must be made prior to crop emergence.

Unless otherwise stated, allow 7 or more days after application before tillage.

Best results are obtained when soil moisture is adequate for active weed growth.

#### PERENNIAL WEEDS RATE TABLE

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
<b>Alfalfa</b>	1-2	3-10	2%
Apply after the last hay cutting in the fall. Allow alfalfa to re-grow to a height of 6 to 8 inches or more prior to treatment. Follow application with deep tillage at least 7 days after treatment, but before soil freeze-up.			
<b>Alligatorweed</b>	4	3-20	1.5%
For partial control, apply when most of the plants are in bloom. Repeat applications will be required to achieve control.			
<b>Anise (fennel) 1</b>		-	1-2%
Apply as a spray-to-wet treatment.			
<b>Bahiagrass2</b>	3-5	3-20	2%
<b>Bentgrass</b>	3-5	10-20	2%
For suppression in grass seed production areas. For ground application only. Ensure entire crown area has resumed growth prior to a fall application. Ensure that bentgrass has at least 3 inches of growth before application. Avoid tillage prior to treatment. Tillage 7 to 10 days after application provides best results.			
<b>Bermudagrass</b>	3-5	3-20	2%
For control, apply 5 quarts of this product per acre. For partial control, apply 3 quarts per acre. Apply when bermudagrass is actively growing and seedheads are present. Retreatment may be necessary to achieve control.			
<b>Bermudagrass, water (knotgrass)</b>	1-1.5	5-10	2%
Apply 3 pints of this product in 5 to 10 gallons of water per acre when water bermudagrass is 12 to 18 inches in length. Allow 7 or more days before tilling, flushing or flooding the field.			
For fall application, apply 1 quart this product in 5 to 10 gallons of water per acre. Till fallow fields prior to application. Apply prior to frost on water bermudagrass that is 12 to 18 inches in length.			
This product is not registered in California for use on water bermudagrass.			
<b>Bindweed, field</b>	0.5 - 5	3-20	2%
Do not treat when weeds are under drought stress as good soil moisture is necessary for active growth.			
For control, apply 4 to 5 quarts of this product per acre west of the Mississippi River and 3 to 4 quarts per acre east of the Mississippi River when bindweed is at or beyond full bloom. For best results, apply in late summer or fall. Fall treatment must be applied before a killing frost.			
Also for control, apply 2 quarts of this product plus 0.5 pound of dicamba in 10 to 20 gallons of water per acre. Do not apply by air.			
For suppression on irrigated agricultural land, apply 1 to 2 quarts of this product plus 1 pound of 2,4-D, in 10 to 20 gallons of water per acre with ground application equipment only. Application can be made following harvest or in fall fallow ground when bindweed is actively growing and the majority of runners are 12 inches or more in length. Irrigate at least once to promote active bindweed growth.			
For suppression, apply 1 pint of this product plus 0.5 pound of 2,4-D, in 3 to 10 gallons of water per acre with ground application equipment, or in 3 to 5 gallons of water per acre for aerial application. Apply by air in fallow and reduced tillage systems only. Delay application until maximum emergence has occurred and when vines are between 6 to 18 inches in length.			

In California only, apply 1 to 5 quarts of this product per acre. Actual rate needed for suppression or control will vary within this range depending on local conditions. For suppression on irrigated land where annual tillage is performed, apply 1 quart of this product in 3 to 10 gallons of water per acre when bindweed has reached a length of 12 inches or greater. Allow maximum weed emergence and runner growth before application. Allow 3 or more days after application before tillage.

**Bluegrass, Kentucky** 1-2 3-40 2%

Apply 2 quarts of this product in 10 to 40 gallons of water per acre when most plants have reached the boot to early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre to actively growing plants when most have reached 4 to 12 inches in height.

**Blueweed, Texas** 3-5 3-40 2%

Apply 4 to 5 quarts of this product per acre west of the Mississippi River and 3 to 4 quarts per acre east of the Mississippi River when plants are at or beyond full bloom. New leaf development indicates active growth. For best results, apply in late summer or fall. Fall treatment must be applied before a killing frost.

**Brackenfern** 3-4 3-40 1-1.5%

Apply to fully expanded fronds that are at least 18 inches long.

**Bromegrass, smooth** 1-2 3-40 2%

Apply 2 quarts of this product in 10 to 40 gallons of water per acre when most plants have reached the boot to early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre to actively growing plants when most have reached 4 to 12 inches in height.

**Bursage, woolly-leaf** - 3-20 2%

For control, apply 2 quarts of this product plus 0.5 pound of dicamba per acre. For partial control, apply 1 quart of this product plus 0.5 pound of dicamba per acre. Apply when plants are producing new active growth that has been initiated by moisture for at least 2 weeks, and when plants are at or beyond flowering.

**Canarygrass, reed2** 2-3 3-40 2%

**Cattail2** 3-5 3-40 2%

**Clover; red or white'** 3-5 3-20 2%

Also for control, apply 16 to 32 fluid ounces of this product plus 0.5 to 1 pound of 2,4-D, in 3 to 10 gallons of water per acre.

**Cogongrass** 3-5 10-40 2%

Apply when cogongrass is at least 18 inches tall in late summer or fall. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to achieve control.

**Dallisgrass2** 3-5 3-20 2%

**Dandelion'** 3-5 3-40 2%

Also for control, apply 1 pint of this product plus 0.5 pound of 2,4-D, in 3 to 10 gallons of water per acre.

**Dock, curly'** 3-5 3-40 2%

Also for control, apply 1 to 2 pints of this product plus 0.5 to 1 pound of 2,4-D, in 3 to 10 gallons of water per acre.

**Dogbane, hemp** 4 3-40 2%

Apply when most plants have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to re-grow to a mature stage prior to treatment. For best results, apply in late summer or fall.

For suppression, apply 1 pint of this product plus 0.5 pound of 2,4-D, in 3 to 10 gallons of water per acre for ground application, and 3 to 5 gallons of water per acre for aerial application. Delay application until maximum emergence of dogbane has occurred.

Fescue (except tall)	3-5	3-20	2%
Fescue, tall	1-3	3-40	2%

Apply 3 quarts of this product per acre when most plants have reached boot to early seedhead stage of development.

For fall application, apply 1 quart of this product in 3 to 10 gallons of water per acre when plants have 6 to 12 inches of new growth. A sequential application of 1 pint of this product per acre will improve long-term control and control seedlings germinating after fall treatments or the following spring.

Guineagrass	2-3	3-40	1%
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Apply when most plants have reached at least the 7-leaf stage of growth. Ensure thorough coverage when using hand-held equipment. In Texas and ridge of Florida, use 2 quarts of this product per acre for control. In the flatwoods region of Florida, 3 quarts of this product per acre are required for control.

Horsenettle	3-5	3-20	2%
Horseradish	4	3-40	2%

Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.

Iceplant	-	-	1.5-2%
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Thorough coverage is necessary for best control.

Jerusalem artichoke	3-5	3-20	2%
Johnsongrass	0.5 - 3	3-40	1 %

In annual cropping systems, apply 1 to 2 quarts of this product in 3 to 10 gallons of water per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per acre. In non-crop areas, or in areas where annual tillage is not practiced (no-till), apply 2 to 3 quarts of this product in 10 to 40 gallons of water per acre.

For best results, apply when most plants have reached the boot to head stage of development or in the fall prior to frost. Allow 7 or more days after application before tillage. Do not tank-mix with residual herbicides when applying 1 quart of this product per acre.

For burndown of Johnsongrass, apply 1 pint of this product in 3 to 10 gallons of water per acre before the plants reach a height of 12 inches. Allow at least 3 days after treatment before tillage.

For partial control or suppression, apply a 1-percent solution of this product as a spot treatment when Johnsongrass is 12 to 18 inches in height. Ensure that coverage is uniform and complete.

Kikuyugrass	2-3	3-40	2%
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Apply when most kikuyugrass is at least 8 inches in height (3- or 4-leaf stage of growth). Allow 3 or more days after application before tillage.

Knapweed	4	3-40	2%
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Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.

Lantana	-	-	1 -1.25%
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Apply at or beyond the bloom stage of growth.

Lespedeza	3-5	3-20	2%
Milkweed, common	3	3-40	2%

Apply when most plants have reached the late bud to flower stage of growth.

Muhly, wirestem	1-2	3-40	2%
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Apply 1 quart of this product in 3 to 10 gallons of water per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per acre or in pasture, sod, or non-crop areas. Apply when wirestem muhly is 8 inches or more in height. Do not till between harvest and fall application, or in the fall or spring prior to spring application. Allow 3 or more days after application before tillage.

Mullein, common	3-5	3-20	2%
Napiergrass2	3-5	3-20	2%

<b>Nightshade, silverleaf</b>	2	3-10	2%
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For best results, apply when at least 60 percent of the plants have berries. Fall treatment must be made before a killing frost.

<b>Nutsedge, purple or yellow</b>	0.5 - 3	3-40	1 -2%
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Apply 3 quarts of this product per acre, or as a 1 to 2-percent solution, for control of nutsedge plants and immature nutlets attached to treated plants. Treat when plants are in flower or when new nutlets can be found at rhizome tips. Nutlets that have not germinated will not be controlled and may germinate after treatment. Repeat treatments will be required for long-term control of ungerminated tubers.

Sequential application of 1 to 2 quarts of this product in 3 to 10 gallons of water per acre after a majority of the plants are in the 3- to 5-leaf stage (less than 6 inches tall) will also provide control. Repeat this application as necessary when newly emerging plants reach the 3 to 5-leaf stage. Subsequent applications will be necessary for long-term control.

For partial control of existing plants, apply 1 pint to 2 quarts of this product in 3 to 40 gallons of water

per acre when plants have 3 to 5 leaves and most are less than 6 inches tall. Repeat treatments will be required to control subsequent emerging plants or re-growth of existing plants.

<b>Orchardgrass</b>	1 -2	3-40	2%
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Apply 2 quarts of this product in 10 to 40 gallons of water per acre when most plants have reached the boot to early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre when plants are actively growing and most have reached 4 to 12 inches in height.

For orchardgrass sods going to no-till corn, apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre to orchardgrass that is a minimum of 12 inches tall for spring application, and 6 inches tall for fall application. Allow at least 3 days following application before planting. A sequential application of atrazine will be necessary for optimum results.

<b>Pampasgrass</b>	-	-	1.5-2%
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Apply when pampasgrass is at or beyond the boot stage of growth. Thorough coverage is necessary for best control.

<b>Paragrass2</b>	3-5	3-20	2%
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<b>Phragmites</b>	3-5	10-40	1 -2%
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For partial control and best results, treat during late summer or fall when plants are actively growing and in full bloom. Treatment before or after this stage could result in reduced control. Due to the dense nature of this vegetation, which may prevent good spray coverage, or uneven stages of growth, repeat treatments could be necessary to achieve control. Visual control symptoms will be slow to develop.

<b>Poison hemlock</b>	-	-	1 -2%
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With hand-held sprayers, apply as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth. Thorough coverage is necessary for best control.

<b>Pokeweed, common</b>	1	3-40	2%
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Apply to actively growing plants up to 24 inches tall.

<b>Quackgrass</b>	1 -3	3-40	2%
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In annual cropping systems, or in pastures and sods followed by deep tillage, apply 1 quart of this product in 3 to 10 gallons of water per acre, or 2 quarts in 10 to 40 gallons of water per acre. Do not tank-mix with residual herbicides when using the 1-quart rate. Spray when quackgrass is 6 to 8 inches in height. Do not till between harvest and fall application, or in the fall or spring prior to spring application. Allow 3 or more days after application before tillage. In pastures or sods, use a moldboard plow for best results.

In pastures, sods or non-crop areas where deep tillage does not follow application, apply 2 to 3 quarts of this product in 10 to 40 gallons of water per acre when quackgrass is greater than 8 inches tall.

<b>Redvine</b>	0.75 - 2	5-10	2%
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For suppression, make two applications of 1.5 pints of this product per acre 7 to 14 days apart or a single application of 2 quarts per acre. Apply these rates in 5 to 10 gallons of water per acre. Apply in late September or early October to plants that are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation and at least 1 week before a killing frost.

<b>Reed, giant</b>	-	-	2%
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Best results are obtained when application is made in late summer or fall.

<b>Ryegrass, perennial</b>	1 -3	3-40	1%
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In annual cropping systems, apply 1 to 2 quarts of this product per acre in 3 to 10 gallons of water per acre, or 2 quarts of this product when applying 10 to 40 gallons of water per acre. In non-crop areas or areas where annual tillage is not practiced (no-till), apply 2 to 3 quarts of this product in 10 to 40 gallons of water per acre.

For best results, apply when most plants have reached the boot to head stage of development or in the fall prior to frost. Do not tank-mix with residual herbicides when applying 1 quart of this product per acre.

<b>Smartweed, swamp'</b>	3-5	3-40	2%
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Also for control, apply 1 pint of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall.

<b>Sowthistle, perennial</b>	2-3	3-40	2%
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Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to application of this product. Fall treatment must be made before a killing frost. Allow 3 or more days after application before tillage.

<b>Spurge, leafy</b>	-	3-10	2%
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For suppression, apply 1 pint of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre in late summer or fall. If mowing has occurred prior to treatment, apply when most plants are 12 inches tall.

<b>Starthistle, yellow</b>	2	10-40	2%
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Best results are obtained when application is made during the rosette, bolting or early flower stages.

<b>Sweet potato, wild</b>	-	-	2%
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For partial control, apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.

<b>Thistle, artichoke</b>	-	-	2%
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For partial control, apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.

<b>Thistle, Canada</b>	2-3	3-40	2%
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Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to application of this product. Fall treatment must be applied before a killing frost. Allow 3 or more days after application before tillage.

For suppression in the spring, apply 1 quart of this product alone, or 1 pint of this product plus 0.5 pound of 2,4-D, in 3 to 10 gallons of water per acre. Allow rosette re-growth to a minimum of 6 inches in diameter before treating. Application can be made as long as leaves are still green and plants are actively growing at the time of application. Allow 3 or more days after application before tillage.

<b>Timothy2</b>	2-3	3-40	2%
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<b>Torpedograss</b>	4-5	3-40	2%
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For partial control, apply when most plants are at or beyond the seedhead stage of development. Repeat applications will be required to achieve control. Fall treatment must be applied before frost.

Trumpet creeper	2	5-10	2%
For partial control, apply in late September or October, to plants that are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Apply at least 1 week before a killing frost.			
Vaseygrass <sup>2</sup>	3-5	3-20	2%
Velvetgrass <sup>2</sup>	3-5	3-20	2%
Wheatgrass, western <sup>2</sup>	2-3	3-40	2%

Apply when most plants have reached the early bud stage of growth.

<sup>2</sup> Apply when most plants have reached the early heading stage of growth.

#### 16.0 WOODY BRUSH AND TREES RATE SECTION

Apply this product after full leaf expansion, unless otherwise directed. Use the higher rate for larger plants and/or dense areas of growth. On vines, use the higher rate for plants that have reached the woody stage of growth. Best results are obtained when application is made in late summer or fall after fruit formation.

In arid areas, best results are obtained when application is made in the spring to early summer when brush species are at high moisture content and are flowering.

Unless otherwise directed, apply broadcast treatments in 3 to 40 gallons of water per acre. Ensure thorough coverage when using hand-held equipment. Symptoms may not appear prior to frost or senescence with fall treatment.

Allow 7 or more days after application before tillage, mowing or removal. Repeat treatments may be necessary to control plants regenerating from underground parts or seed. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Reduced performance may result if fall treatment is made following a frost.

#### WOODY BRUSH AND TREES RATE TABLE

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
Alder	3-4	3-40	1-1.5%
Ash'	2-5	3-40	1-2%
Aspen, quaking	2-3	3-40	1-1.5%
Bearmat (Bearclover) 1	2-5	3-40	1-2%
Beech'	2-5	3-40	1-2%
Birch	2-3	3-40	1-1.5%
Blackberry	3-4	10-40	1-1.5%
Apply after plants have reached full leaf maturity. Best results are obtained when application is made in late summer or fall. Application may also be made after leaf drop and until a killing frost or as long as stems are green. After berries have set or dropped in late fall, blackberry can be controlled by applying a 0.75 percent solution of this product. For control of blackberries after leaf drop and until killing frost or as long as stems are green, apply 3 to 4 quarts of this product in 10 to 40 gallons of water per acre.			
Blackgum	2-5	3-40	1-2%
Bracken	2-5	3-40	1-2%
Broom; French, Scotch	-	-	1.5-2%
Buckwheat, California' 2	-	-	1-2%
Cascara'	2-5	3-40	1-2%
Catsclaw'	-	-	1-1.5%
Ceanothus'	2-5	3-40	1-2%
Chamise <sup>2</sup>	-	-	1%
Cherry; bitter, black, pin	2-3	3-40	1-1.5%

Coyote brush			1.5-2%
Apply when at least 50 percent of the new leaves are fully developed.			
Dogwood'	2-5	3-40	1 -2%
Elderberry	2-3	3-40	1 -1.5%
Elm'	2-5	3-40	1 -2%
Eucalyptus	-	-	2%
For control of eucalyptus re-sprouts, apply when re-sprouts are 6 to 12 feet tall. Ensure complete coverage. Avoid application to drought-stressed plants.			
Florida holly (Brazilian Peppertree)'	2-5	3-40	1 -2%
Gorse'	2-5	3-40	1 -2%
Hasardia' 2	-	-	1 -2%
Hawthorn	2-3	3-40	1 - 1.5%
Hazel	2-3	3-40	1 -1.5%
Hickory'	2-5	3-40	1 -2%
Honeysuckle	3-4	3-40	1 -1.5%
Hornbeam, American'	2-5	3-40	1 -2%
Kudzu	4-5	3-40	2%
Repeat applications may be required to achieve control.			
Locust, black'	2-4	3-40	1-2%
Madrone resprouts'	-	-	2%
Apply to re-sprouts that are 3 to 6 feet tall. Best results are obtained with spring/early summer treatment.			
Manzanita'	2-5	3-40	1 -2%
Maple, red	2-4	3-40	1 -1.5%
Apply a 1 to 1.5-percent solution when at least 50 percent of the new leaves are fully developed. For partial control, apply 2 to 4 quarts of this product per acre.			
Maple, sugar	-	-	1 -1.5%
Apply when at least 50 percent of the new leaves are fully developed.			
Monkey flower' 2	-	-	1 -2%
Oak; black,white'	2-4	3-40	1 -2%
Oak, post	3-4	3-40	1 -1.5%
Oak; northern,	-	-	1 -1.5%
Apply when at least 50 percent of the new pin leaves are fully developed			
Oak; southern red	2-3	3-40	1 -1.5%
Persimmon'	2-5	3-40	1 -2%
Pine	2-5	3-40	1 -2%
Poison ivy/Poison oak	4-5	3-40	2%
Repeat applications may be required to achieve control. Fall treatment must be applied before leaves lose green color.			
Poplar, yellow'	2-5	3-40	1 -2%
Redbud, eastern	2-5	3-40	1 -2%
Rose, multiflora	2	3-40	1%
Treat prior to leaf deterioration by leaf-eating insects.			
Russian olive'	2-5	3-40	1 -2%
Sage, black' '2	-	-	1 %
Sage, white'	2-5	3-40	1 -2%
Sage brush, California2	-	-	1 %
Salmonberry	'2-3	3-40	1 -1.5%



Salt-cedar	2-5	3-40	1 -2%
Sassafras <sup>1</sup>	2-5	3-40	1 -2%
Sourwood <sup>1</sup>	2-5	3-40	1 -2%
Sumac; poison, smooth, winged <sup>1</sup>	2-4	3-40	1 -2%
Sweetgum	2-3	3-40	1 -1.5%
Swordfern <sup>1</sup>	2-5	3-40	1 -2%
Tallowtree, Chinese <sup>2</sup>	-	-	1%
Tan oak resprouts <sup>1</sup>	-	-	2%
Apply to re-sprouts that are less than 3 to 6 feet tall. Best results are obtained with fall application.			
Thimbleberry	2-3	3-40	1 -1.5%
Tobacco, tree <sup>1</sup>	-	-	1 -2%
Trumpet creeper	2-3	3-40	1 -1.5%
Vine maple <sup>1</sup>	2-5	3-40	1 -2%
Virginia creeper	2-5	3-40	1 -2%
Waxmyrtle, Southern <sup>1</sup>	2-5	3-40	1 -2%
Willow	3-4	3-40	1 -1.5%

1 Partial Control

2 Thorough coverage of foliage is necessary for best results.

#### 17.0 LIMIT OF WARRANTY AND LIABILITY

REPAR CORPORATION warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for Use label booklet ("Directions") when used in accordance with those Directions under the conditions described therein. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and limitations stated herein.

Buyer and all users shall promptly notify this Company of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

To the extent consistent with applicable law, buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this Company, including, but not limited to, incompatibility with products other than those set forth in the Directions, application to or contact with desirable vegetation, failure of this product to control weed biotypes which develop resistance to glyphosate, unusual weather, weather conditions which are outside the range considered normal at the application site and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

This Company does not warrant any product reformulated or repackaged from this product except in accordance with this Company's stewardship requirements and with express written permission from this Company.

For in-crop (over-the-top) uses on Roundup Ready crops, crop safety and weed control performance are not warranted by REPAR CORPORATION when this product is used in conjunction with "brown bag" or "bin run" seed saved from previous year's production and replanted.

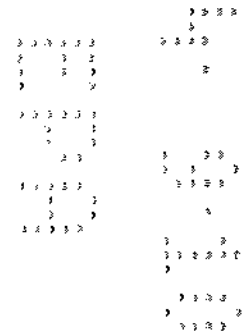
TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF THIS COMPANY OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF THIS COMPANY OR ANY OTHER SELLER, THE REPLACEMENT OF SUCH QUANTITY, OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY. TO THE FULLEST EXTENT PERMITTED BY LAW, IN NO EVENT SHALL THIS COMPANY OR ANY OTHER SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES.

Upon opening and using this product, buyer and all users are deemed to have accepted the terms of this LIMIT OF WARRANTY AND LIABILITY which may not be varied by any verbal or written agreement. If terms are not acceptable, return at once unopened.

Amplify, Bullet, Degree, Farmsource, Harness, Lariat, Micro-Tech, Monsanto and Vine symbol, and Permit are trademarks of Monsanto Technology LLC.

All other trademarks are the property of their respective owners. EPA Reg. No. 69361-

REPAR CORPORATION  
P.O. Box 4321  
Silver Spring, MD 20914



## II MAIN LABEL FOR INDUSTRIAL, TURF AND ORNAMENTAL USES

TOPDOG 41% PLUS

Herbicide

The complete broad-spectrum postemergence herbicide for non-crop, industrial, turf and ornamental weed control.

### Complete Directions for Use

EPA Reg. No. 69361-

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS), DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION IS LIKELY TO RESULT.

Read the entire label before using this product.

Use only according to label instructions.

Not all products listed on this label are registered for use in California. Check the registration status of each product in California before using.

Read the "LIMIT OF WARRANTY AND LIABILITY" statement at the end of the label before buying or using. If terms are not acceptable, return at once unopened.

THIS IS AN END-USE PRODUCT. REPAR CORPORATION DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION. SEE INDIVIDUAL CONTAINER LABEL FOR REPACKAGING LIMITATIONS.

[Optional Container Label Statement: THIS IS AN END-USE PRODUCT. REPAR CORPORATION DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION. REPACKAGING OF THIS PRODUCT FOR DISTRIBUTION OR SALE MAY BE CONDUCTED ONLY UNDER THE TERMS OF A WRITTEN CONTRACT WITH REPAR CORPORATION.]

[Optional Container Label Statement: THIS IS AN END-USE PRODUCT. REPAR CORPORATION DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION OR REPACKAGING.]

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#### 1.0 INGREDIENTS

##### ACTIVE INGREDIENT:

\*Glyphosate, N-(phosphonomethyl)glycine, in the form of its isopropylamine salt ...

OTHER INGREDIENTS: ...

	41.0%
	59.0%
	100.0%

\* Contains 480 grams per liter or 4 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its isopropylamine salt. Equivalent to 356 grams per liter or 3 pounds per U.S. gallon of the acid, glyphosate.

No license granted under any non-U.S. patent(s).

## 2.0 IMPORTANT PHONE NUMBERS

1. FOR PRODUCT INFORMATION OR ASSISTANCE IN USING THIS PRODUCT,  
CALL TOLL-FREE,

[1-301-562-7330]

3. IN CASE OF AN EMERGENCY INVOLVING THIS HERBICIDE PRODUCT, OR FOR MEDICAL  
ASSISTANCE, CALL COLLECT, DAY OR NIGHT,

[1-800-858-7378]

## 3.0 PRECAUTIONARY STATEMENTS

### 3.1 Hazards to Humans and Domestic Animals

Keep out of reach of children

## WARNING! AVISO!

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail)

CAUSES SUBSTANTIAL BUT TEMPORARY EYE INJURY

HARMFUL IF SWALLOWED OR INHALED

Do not get in eyes or on clothing.

Avoid breathing vapor or spray mist.

FIRST AID:	Call a poison control center or doctor for treatment advice
IF IN EYES	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.</li><li>• Remove contact lenses if present after the first 5 minutes then continue rinsing eye.</li></ul>
IF INHALED	<ul style="list-style-type: none"><li>• Move person to fresh air.</li><li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li></ul>
IF SWALLOWED	<ul style="list-style-type: none"><li>• Have person sip a glass of water if able to swallow.</li><li>• Do not induce vomiting unless told to by a poison control center or doctor.</li><li>• Do not give anything to an unconscious person.</li></ul>
<ul style="list-style-type: none"><li>• Have the product container or label with you when calling a poison control center or doctor, or going for treatment.</li><li>• You may also contact [1-800-858-7378], collect day or night, for emergency medical treatment information.</li><li>• This product is identified as TOPDOG 41% PLUS, EPA Registration No. 69361-.</li></ul>	

**DOMESTIC ANIMALS:** This product is considered to be relatively nontoxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

### Personal Protective Equipment (PPE)

Applicators and other handlers must wear: long-sleeved shirt and long pants, shoes plus socks, and protective eyewear. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such

instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

#### User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside.
- Then wash thoroughly and put on clean clothing.

#### 3.2 Environmental Hazards

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

#### 3.3 Physical or Chemical Hazards

Spray solutions of this product may be mixed, stored and applied using only stainless steel, fiberglass, plastic or plastic-lined steel containers.

DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. This product can only be used in accordance with the Directions for Use on this label or in separately published supplemental labeling. Supplemental labeling can be found on the Internet at [www.agrian.com](http://www.agrian.com), [www.cdms.net](http://www.cdms.net), or [www.greenbook.net](http://www.greenbook.net) websites, or obtained by contacting your authorized [REPAR CORPORATION] retailer or REPAR CORPORATION representative.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.

The following paragraph is reserved and will only appear on final printed labeling, for products under this registration if and when required by EPA:

ENDANGERED SPECIES PROTECTION REQUIREMENTS: This product may have effects on federally listed threatened or endangered species or their critical habitat in some locations. When using this product, you must follow the measures contained in the Endangered Species Protection Bulletin for the county or parish in which you are applying the pesticide. To determine whether your county or parish has a Bulletin, and to obtain that Bulletin, consult <http://www.epa.gov/espp/>, or call 1-800-447-3813 no more than 6 months before using this product. Applicators must use Bulletins that are in effect in the month in which the pesticide will be applied. New Bulletins will generally be available from the above sources 6 months prior to their effective dates.

#### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: coveralls, chemical resistant gloves greater than 14 mils in thickness composed of materials such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber, shoes plus socks and protective eyewear.

#### Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Keep people and pets off treated areas until spray solution has dried.

#### 4.0 STORAGE AND DISPOSAL

Proper pesticide storage and disposal are essential to protect against exposure to people and the environment due to leaks and spills, excess product or waste, and vandalism. Do not allow this product to contaminate water, foodstuffs, feed or seed by storage or disposal.

**PESTICIDE STORAGE:** Store pesticides away from food, pet food, feed, seed, fertilizers, and veterinary supplies. Keep container closed to prevent spills and contamination.

**PESTICIDE DISPOSAL:** To avoid wastes, use all material in this container, including rinsate, by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program. Such programs are often run by state or local governments or by industry. All disposal must be in accordance with applicable federal, state and local regulations and procedures.

**CONTAINER HANDLING AND DISPOSAL:** See container label for container handling and disposal instructions and refilling limitations.

[CONTAINER HANDLING AND DISPOSAL STATEMENTS AND REFILLING LIMITATIONS FOR CONTAINER LABELS:]

[CONTAINER HANDLING AND DISPOSAL STATEMENT AND REFILLING LIMITATION FOR NONREFILLABLE RIGID CONTAINERS OF LESS THAN 1-GALLON CAPACITY]

Nonrefillable container. Do not reuse or refill this container.

[Alternate container statement: Nonrefillable container. Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state.]

Triple rinse this container promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Then offer this container for recycling, if available. If recycling is not available, dispose of in accordance with federal, state and local regulations and procedures, which may include puncturing the properly

rinsed container and disposing in a sanitary landfill.

[Alternate container disposal statement: Once properly rinsed, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. [Optional container disposal statement: To find the nearest site, contact your chemical dealer or REPAR CORPORATION at [INSERT PHONE NUMBER].] If recycling is not available, dispose of in accordance with federal, state and local regulations and procedures, which may include puncturing the properly rinsed container and disposing in a sanitary landfill.]

[Optional container statement: This container is not to be sold to homeowners for residential use.]

[CONTAINER HANDLING AND DISPOSAL STATEMENT AND REFILLING LIMITATION FOR NONREFILLABLE RIGID PLASTIC 2.5-GALLON CONTAINERS AND OTHER CONTAINERS OF GREATER THAN 1-GALLON BUT EQUAL TO OR LESS THAN 5-GALLON CAPACITY]

Nonrefillable container. Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state.

[Alternate container statement: Nonrefillable container. Do not reuse or refill this container.]

Triple rinse or pressure rinse (or equivalent) this container promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Once properly rinsed, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. [Optional container disposal statement: To find the nearest site, contact your chemical dealer or REPAR CORPORATION at [1-301-562-7330].] If recycling is not available, dispose of in accordance with federal, state and local regulations and procedures, which may include puncturing the properly rinsed container and disposing in a sanitary landfill.

[Alternate container disposal statement: Then offer this container for recycling, if available. If recycling is not available, dispose of in accordance with federal, state and local regulations and procedures, which may include puncturing the properly rinsed container and disposing in a sanitary landfill.]

[Optional container statement: This container is not to be sold to homeowners for residential use.]

[CONTAINER HANDLING AND DISPOSAL STATEMENT AND REFILLING LIMITATION FOR NONREFILLABLE RIGID PLASTIC 30-GALLON CONTAINERS AND OTHER CONTAINERS OF GREATER THAN 5-GALLON CAPACITY]

Nonrefillable container. Do not reuse or refill this container.

[Alternate container statement: Nonrefillable container. Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state.]

Triple rinse or pressure rinse (or equivalent) this container promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end tip it back and forth several times. Empty



the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Once properly rinsed, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. [Optional container disposal statement: To find the nearest site, contact your chemical dealer or [REPAR CORPORATION] at [1-301-562-7330].] If recycling is not available, dispose of in accordance with federal, state and local regulations and procedures, which may include puncturing the properly rinsed container and disposing in a sanitary landfill.

[Alternate container disposal statement: Then offer this container for recycling, if available. If recycling is not available, dispose of in accordance with federal, state and local regulations and procedures, which may include puncturing the properly rinsed container and disposing in a sanitary landfill.]

[Optional container label statement: Return Properly Rinsed Container to Monsanto for Recycling Contact: 1-800-ROUNDUP (1-800-768-6387)]

#### [CONTAINER HANDLING AND DISPOSAL STATEMENT AND REFILLING LIMITATION FOR ALL REFILLABLE CONTAINERS, EXCEPT TRANSPORT CONTAINERS]

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose.

Cleaning this container before refilling is the responsibility of the refiller. Cleaning this container before final disposal is the responsibility of the person disposing of the container.

To clean this container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer this container for recycling, if available.

[Optional container label statement: To obtain information about recycling refillable containers, contact REPAR CORPORATION at [1-301-562-7330]]

[Optional container label statement: Return Properly Rinsed Container for Recycling,

#### [CONTAINER HANDLING AND DISPOSAL STATEMENT FOR ALL TRANSPORT CONTAINERS AS DEFINED IN 40 CFR 156.3]

Emptied container retains vapor and product residue. Observe all precautions stated on this label until the container is cleaned, reconditioned or destroyed. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, and worn-out threads and closures. Clean thoroughly before reuse for transportation of a material of different composition or before retiring this transport vehicle from service.

## 5.0 PRODUCT INFORMATION

Product Description: This product is a postemergence, systemic herbicide with no soil residual activity. It gives broad-spectrum control of many annual weeds, perennial weeds, woody brush and trees. It is formulated as a water-soluble liquid containing surfactant.

Time to Symptoms: This product moves through the plant from the point of foliage contact to and into the root system. Visual effects are a gradual wilting and yellowing of the plant that advances to complete browning of above ground growth and deterioration of underground plant parts. Effects are visible on most annual weeds within 2 to 4 days, but on most perennial weeds may not occur for 7 or more days. Extremely cool or cloudy weather following treatment may slow activity of this product and delay development of visual symptoms.

Stage of Weeds: Annual weeds are easiest to control when they are small. Best control of most

perennial weeds is obtained when treatment is made at later growth stages approaching maturity.

**Mode of Action in Plants:** The active ingredient in this product inhibits an enzyme found only in plants and microorganisms that is essential to the formation of specific amino acids.

**Cultural Considerations:** Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed or cut, and have not been allowed to re-grow to the specified stage for treatment.

**Rainfastness:** Heavy rainfall soon after application may wash this product off of the foliage and a repeat application may be required for adequate control.

**No Soil Activity:** Weeds must be emerged at the time of application to be controlled by this product. Weeds germinating from seed after application will not be controlled. Plants arising from unattached underground rhizomes or rootstocks of perennials that have not yet emerged at the time of application will not be affected by the herbicide and will continue to grow.

**Biological Degradation:** Degradation of this product is primarily a biological process carried out by soil microbes.

**Maximum Application Rates:** The maximum application or use rates stated throughout this label are given in units of volume (fluid ounces, pints or quarts) of this product per acre. However, the maximum allowed application rates apply to this product combined with the use of any and all other herbicides containing the active ingredient glyphosate, whether applied separately or as tank mixtures, on a basis of total pounds of glyphosate (acid equivalents) per acre. If more than one glyphosate-containing product is applied to the same site within the same year, you must ensure that the total use glyphosate (pounds acid equivalents) does not exceed the maximum allowed. See the "INGREDIENTS" section of this label for necessary product information.

#### ATTENTION

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.

Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended. The likelihood of injury occurring from the use of this product increases when winds are gusty, as wind velocity increases, when wind direction is constantly changing or when there are other meteorological conditions that favor spray drift. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) that are likely to drift. AVOID APPLYING AT EXCESSIVE SPEED OR PRESSURE.

NOTE: Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or have other unintended consequences.

#### 5.1 Weed Resistance Management

Glyphosate, the active ingredient in this product, is a Group 9 herbicide based on the mode of action classification system of the Weed Science Society of America. Any weed population may contain plants naturally resistant to Group 9 herbicides. Weed species resistant to Group 9 herbicides may be effectively managed utilizing another herbicide from a different Group or by using other cultural or mechanical practices.

To minimize the occurrence of glyphosate-resistant biotypes observe the following weed management practices:

- Scout your application site before and after herbicide application.
- Control weeds early when they are relatively small.
- Incorporate other herbicides and cultural or mechanical practices as part of your weed control system where appropriate.

- Use the application rate for the most difficult to control weed on the site. Avoid tank mixtures with other herbicides that reduce the efficacy of this product (through antagonism) or with ones that encourage application rates of this product below those specified on this label.
- Control weed escapes and prevent weeds from setting seeds.
- Use new commercial seed that is as free of weed seed as possible.

Report any incidence of repeated non-performance of this product on a particular weed to your REPAR CORPORATION representative, local retailer, or county extension agent.

## 5.2 Management of Glyphosate-Resistant Biotypes

Note: Appropriate testing is critical in order to confirm weed resistance to glyphosate. Contact your REPAR CORPORATION representative to determine if resistance in any particular weed biotype has been confirmed in your area. Directions for the control of biotypes confirmed to be resistant to glyphosate are made available on separately published supplemental labeling or Fact Sheets for this product and can be obtained from your local retailer or REPAR CORPORATION representative.

Since the occurrence of new glyphosate-resistant weeds cannot be determined until after product use and scientific confirmation, REPAR CORPORATION is not responsible for any losses that may result from the failure of this product to control glyphosate-resistant weed biotypes.

The following good agronomic practices can reduce the spread of confirmed glyphosate-resistant biotypes:

- If a naturally occurring resistant biotype is present in your field, this product can be tank-mixed or applied sequentially with an appropriately labeled herbicide with a different mode of action to achieve control.
- Cultural and mechanical control practices may also be used as appropriate.
- Scout treated sites after herbicide application and control escapes of resistant biotypes before they set seed.
- Thoroughly clean equipment before a site known to contain resistant biotypes.

## 6.0 MIXING

Spray solutions of this product may be mixed, stored, and applied using only clean stainless steel, plastic, fiberglass, plastic or plastic-lined steel containers. Clean sprayer parts promptly after using this product by thoroughly flushing with water. Use caution to avoid siphoning back into the carrier source. Use approved anti-back-siphoning devices where required by state or local regulations.

### 6.1 Mixing with Water

NOTE: PRODUCT PERFORMANCE MAY BE SIGNIFICANTLY REDUCED IF WATER CONTAINING SOIL SEDIMENT IS USED AS A CARRIER. DO NOT MIX THIS PRODUCT WITH WATER FROM PONDS AND DITCHES THAT IS VISIBLY MUDDY OR MURKY.

This product mixes readily with water. Mix spray solutions of this product as follows: Begin filling the mixing tank or spray tank with clean water. Add the required amount of this product near the end of the filling process and mix well. During mixing and application, foaming of the spray solution may occur. To prevent or minimize foaming, mix gently, terminate by-pass and return lines at the bottom of the tank and, if necessary, use an anti-foam or defoaming agent.

### 6.2 Tank-Mixing

This product does not provide residual weed control. This product may be tank-mixed with other herbicides to provide residual weed control, a broader weed control spectrum or an alternate mode of action. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used. Use according to the most restrictive precautionary statements for each product in the mixture.

When this label lists a tank mixture with a generic active ingredient such as diuron, atrazine, 2,4-D, or dicamba, the user is responsible for ensuring that the specific application being made is included on the label of the product being used in the tank mixture. Refer to all individual product labels, supplemental

labeling and Fact Sheets for all products in the tank mixture and observe all precautions and limitations on the label, including application timing restrictions, soil restrictions and use according to the most restrictive precautionary statements for each product in the tank mixture. Always predetermine the compatibility of all tank-mix products together in the carrier by mixing small proportional quantities in advance.

Buyer and all users are responsible for any and all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not expressly specified on this label. Mixing this product with herbicides or other materials not specified on this label may result in reduced performance.

### 6.3 Tank-Mixing Procedure

When tank-mixing, read and carefully observe label directions, cautionary statements and all information on the labels of all products used. Add the tank-mix product to the tank as directed by the label. Maintain agitation and add the required amount of this product. If needed, add nonionic surfactant before completing the filling process.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation may be required to re-suspend the mixture before spraying is resumed.

Keep by-pass line on or near the bottom of the tank to minimize foaming. Screen size in nozzle or line strainers can be no finer than 50 mesh.

Always predetermine the compatibility of labeled tank mixtures of this product with water carrier by mixing small proportional quantities in advance.

Refer to the "Tank Mixing" and "PRODUCT INFORMATION" sections for additional precautions.

### 6.4 Mixing for Hand-Held Sprayers

Prepare the desired spray volume by mixing the amount of this product indicated in the following table in water:

#### Spray Solution

#### Amount of TOPDOG 41% PLUS

Desired Volume	0.5%	1%	1.5%	2%	5%	10%
1 gal	0.7 oz	1.3 oz	2 oz	2.7 oz	6.5 oz	13 oz
25 gal	1 pt	1 qt	1.5 qt	2qt	5qt	10 qt
100 gal	2 qt	1 gal	1.5 gal	2 gal	5 gal	10 gal

2 tablespoons = 1 fluid ounce

For backpack, knapsack or pump-up sprayers, consider mixing the appropriate amount of this product with water in a larger container, and then filling the sprayer from the larger container.

### 6.5 Surfactants

Nonionic surfactants (NIS) or wetting agents that have at least 70 percent active ingredient and are labeled for use with herbicides may be added to the spray solution, unless otherwise directed. Do not reduce rates of this herbicide when adding surfactants. Read and carefully observe cautionary statements and other information appearing on the additives label.

### 6.6 Colorants or Dyes

Colorants or marking dyes may be added to spray solutions of this product; however, they can reduce product performance, especially at lower rates or dilution. Use colorants or dyes according to the manufacturer's directions.

## 7.0 APPLICATION EQUIPMENT AND TECHNIQUES

Do not apply this product through any type of irrigation system. Avoid direct application to any body of water.

APPLY SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES.

Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended.

### SPRAY DRIFT MANAGEMENT

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

### AERIAL SPRAY DRIFT MANAGEMENT

The following drift management requirements must be followed to avoid off-target drift movement from aerial application.

1. The distance of the outermost nozzles on the boom must not exceed  $\frac{3}{4}$  the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they must be observed.

#### Importance of Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see the "Wind", "Temperature and Humidity", and "Temperature Inversion" sections of this label).

#### Controlling Droplet Size

- Volume: Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with the higher rated flows produce larger droplets.
- Pressure: Use the lower spray pressures listed for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- Number of nozzles: Use the minimum number of nozzles that provide uniform coverage.
- Nozzle orientation: Orienting nozzles so that the spray is released backwards, parallel to the airstream, will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- Nozzle type: Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.
- Boom length: For some use patterns, reducing the effective boom length to less than  $\frac{3}{4}$  of the wingspan or rotor length may further reduce drift without reducing swath width.
- Application height: Applications must not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces the exposure of the droplets to evaporation and wind.

#### Swath Adjustment

When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Increase the swath adjustment distance with increasing drift potential (higher

wind, smaller droplets, etc.).

#### Wind

Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application must be avoided below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator must be familiar with local wind patterns and how they affect drift.

#### Temperature and Humidity

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

#### Temperature Inversions

Applications must not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sunsets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

#### Sensitive Areas

Apply this product only when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

#### 7.1 Aerial Equipment

DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDITIONS AS SPECIFIED WITHIN THIS LABEL.

FOR AERIAL APPLICATION IN CALIFORNIA, REFER TO THE FEDERAL SUPPLEMENTAL LABEL FOR AERIAL APPLICATION OF THIS PRODUCT IN THAT STATE FOR SPECIFIC INSTRUCTIONS, RESTRICTIONS AND REQUIREMENTS.

TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

Use the labeled rates of this herbicide in 3 to 25 gallons of water per acre unless otherwise specified on this label, or in separate supplemental labeling or Fact Sheets published for this product.

Drift reduction additives may be used. When a drift reduction additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

Ensure uniform application. To avoid streaked, uneven or overlapped application, use appropriate marking devices.

Aircraft Maintenance; Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of this product accumulated during spraying or from spills. PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. LANDING GEAR IS MOST SUSCEPTIBLE. Maintaining an organic coating (paint) that meets aerospace specification MIL-C-38413 may prevent corrosion.

#### 7.2 Ground Broadcast Equipment

Apply the labeled rates of this product in 3 to 40 gallons of water per acre as a broadcast spray unless otherwise specified on this label or in separate supplemental labeling or Fact Sheets published for this product. As the density of weeds increases, increase the spray volume within the labeled range to ensure complete coverage. Carefully select proper nozzles to avoid spraying a fine mist. For best results with ground application equipment, use flat-fan nozzles. Check spray pattern for uniform distribution of spray droplets.

### 7.3 Hand-Held or Backpack Equipment

Apply to foliage of vegetation to be controlled on a spray-to-wet basis; do not spray to the point of runoff. For best results, ensure that spray coverage is uniform and complete. Use coarse sprays only.

For low-volume directed spray application, ensure that at least 50 percent of the foliage is treated. Coverage of the top one-half of the plant is important for best results. To ensure adequate spray coverage, spray both sides of large or tall woody brush and trees, when foliage is thick and dense, or where there are multiple sprouts.

### 7.4 Selective Equipment

This product may be diluted in water and applied through shielded applicators, hooded sprayers, wiper applicators or sponge bars to weeds listed on this label that are growing in any specified non-crop site.

#### AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION

Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations or when the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatment may be necessary.

#### Shielded and Hooded Applicators

A shielded or hooded applicator directs the herbicide solution onto weeds, while shielding desirable vegetation from the herbicide. Use nozzles that provide uniform coverage within the treated area. Keep shields on these sprayers adjusted to protect desirable vegetation. **EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.**

#### Wiper Applicators

Wiper applicators are devices that physically wipe the appropriate amounts of this product directly onto the weed. Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation.

Adjust the height of the wiper applicator to ensure adequate contact with weeds and so that the contact point is at least 2 inches above the desirable vegetation. Better results can be obtained when more of the weed is exposed to the herbicide solution and weeds are a minimum of 6 inches above the desirable vegetation. Weeds not contacted by the herbicide solution will not be affected. Poor contact can occur when weeds are growing in dense clumps, in severe weed infestations or when weed height varies dramatically. In these instances, repeat treatments may be necessary.

Operate this equipment at ground speeds no greater than 5 miles per hour. Performance may be improved by reducing speed in areas of heavy weed infestation to provide adequate wiper saturation with the herbicide solution. Better results may be obtained when two applications are made in opposite directions.

Droplets, mist, foam or splatter of the herbicide solution settling onto desirable vegetation may result in discoloration, stunting or destruction. Avoid leakage or dripping onto desirable vegetation. Keep wiping surfaces clean. Be aware that on sloping ground the herbicide solution may migrate, causing dripping on the lower end and drying of the wicks on the upper end of the wiper applicator.

Do not use wiper applicators when weeds are wet.

Mix only the amount of this product to be used during a 1-day period, as reduced product performance may result from the use of solutions held in storage. Clean wiper parts immediately after using this product by thoroughly flushing with water.

For Rope or Sponge Wick Applicators - Solutions ranging from 33 to 75 percent of this product in water may be used.

For Panel Applicators and Pressure-feed Systems - Solutions ranging from 33 to 100 percent of this product in water may be used.

When applied as directed, this product CONTROLS the following weeds:

Corn, volunteer	Sicklepod
Panicum, Texas	Spanishneedles
Rye, common	Starbur, bristly
Shattercane	

When applied as directed, this product SUPPRESSES the following weeds:

Beggarweed, Florida	Ragweed, common
Bermudagrass	Ragweed, giant
Dogbane, hemp	Smutgrass
Dogfennel	Sunflower
Guineagrass	Thistle, Canada
Johnsongrass	Thistle, musk
Milkweed	Vaseygrass
Nightshade, silverleaf	Velvetleaf
Pigweed, redroot	

## 7.5 Injection Systems

This product may be used in aerial or ground injection spray systems. It may be used as a liquid concentrate or diluted prior to injecting into the spray stream. Do not mix this product with the undiluted concentrate of other products when using injection systems unless specifically directed.

## 7.6 CDA Equipment

The rate of this product applied per acre by controlled droplet application (CDA) equipment must not be less than the amount specified on this label when applied by conventional broadcast equipment. For vehicle-mounted CDA equipment, apply 2 to 15 gallons of water per acre.

CDA equipment produces a spray pattern that is not easily visible. Extreme care must be exercised to avoid spray or drift contacting the foliage or any other green tissue of desirable vegetation, as damage or destruction is likely to result.

## 8.0 SITE AND USE INSTRUCTIONS

This product may be used in non-crop areas including airports, apartment complexes, commercial sites, ditch banks, driveways, dry ditches, dry canals, fencerows, golf courses, greenhouses, industrial sites, landscape areas, lumber yards, manufacturing sites, municipal sites, natural areas, office complexes, ornamentals, parks, parking areas, pastures, petroleum tank farms and pumping installations, public areas, railroads, rangeland, recreation areas, residential areas, rights-of-way, roadsides, schools, shadehouses, sports complexes, storage areas, substations, turfgrass areas, utility sties, warehouse areas and wildlife management areas.

This product may also be used in non-food crops sites such as Christmas tree farms, plant nurseries, and sod or turf seed farms.

Unless otherwise specified, applications may be made to control any weeds listed in the "WEEDS CONTROLLED" section of this label.

### 8.1 Cut Stump

Cut stump treatments may be made on any site listed on this label. This product will control many types of woody brush and tree species. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or re-sprouts close to the soil surface. Apply a 50 to 100-percent solution of this product to the freshly-cut surface immediately after cutting. Delays in application may result in reduced performance. For best results, apply during periods of active growth and full leaf expansion.

DO NOT MAKE CUT STUMP APPLICATIONS WHEN THE ROOTS OF DESIRABLE WOODY BRUSH OR TREES MAY BE GRAFTED TO THE ROOTS OF THE CUT STUMP. Some sprouts, stems, or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems/trees when one or more trees sharing common roots are treated.

### 8.2 Forestry Site Preparation

This product may be used for the control or partial control of woody brush, trees and herbaceous weeds



in forestry in preparing or establishing wildlife openings within these sites and maintaining logging roads.

This product may be used in site preparation prior to planting any tree species, including Christmas trees, eucalyptus, hybrid tree cultivars and silvicultural nursery sites.

Refer to the "WEEDS CONTROLLED" section of this label for specific application rates and instructions. Use the higher rates of this product within the specified range for control or partial control of woody brush, trees and hard-to-control perennial herbaceous weeds. For best results, apply to actively growing woody brush and trees after full leaf expansion and before fall color and leaf drop. Increase rates within the specified range for control of perennial herbaceous weeds any time after emergence and before seedheads, flowers or berries appear.

Use the lower rates of this product within the specified range for control of annual herbaceous weeds and actively growing perennial herbaceous weeds after seedheads, flowers or berries appear. Apply to the foliage of actively growing annual herbaceous weeds any time after emergence.

This product has no herbicidal or residual activity in the soil.

Unless otherwise directed, do not apply this product as an over-the-top broadcast spray for forestry conifer or hardwood release.

**TANK MIXTURES:** Tank mixtures of this product may be used to increase the spectrum of vegetation controlled. When tank-mixing, read and carefully observe the label claims, cautionary statements and all information on the labels of all products used. Use according to the most restrictive precautionary statements for each product in the mixture.

**NOTE:** For forestry site preparation, make sure the tank-mix product is approved for use prior to planting the desired species. Observe planting interval restrictions.

This product may be used in a tank-mix with the following products for forestry site preparation.

Arsenal Applicators Concentrate  
Chopper  
Escort or Escort XP  
Garlon 3A  
Garlon 4A  
Landmark XP  
Oust or Oust XP  
Westar

For control of herbaceous weeds, use the lower specified tank mixture rates. For control of dense stands or tough-to-control woody brush and trees, use the higher application rates.

### 8.3 Use Areas and Industrial Sites

#### Weed Control, Trim-and-Edge, Bare Ground

This product may be used in non-crop and non-food areas. It may be applied with any application equipment described in this label. This product may be used to trim-and-edge around objects in these sites, for spot treatment of unwanted vegetation and to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting an area to ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects.

Repeated applications of this product may be used, as weeds emerge, to maintain bare ground.

**TANK MIXTURES:** This product may be tank-mixed with the following products, provided that the specific product is labeled for application at the use site. Refer to the individual product labels for approved sites and application rates.

2,4-D'	Goal 2XL	Princep 4L
Arsenal	Karmex DF	Princep DF
atrazine'	Krovar 1 DF	Ronstar 50WP
Barricade 65WG	Landmark 11 MP	Sahara
Crossbow L	Milestone	simazine'
dicamba'	Oust XP	Surflan AS
diuron'	Outrider	Surflan WDG
Endurance	Pendulum WDG	Telar
Escort	Pendulum 3.3 EC	Transline
Escort XP	pendimethalin'	Vanquish
Gallery 75 DF	Plateau	Velpar DF
Garlon 4	Poast	Velpar L
Garlon 3A	Landmark XP	Certainty
Landmark MP		

Tank mixtures with products containing this single active ingredient may be made provided the specific product is labeled for application at the use site

This product plus dicamba tank mixtures may not be applied by air in California.

When applied as a tank mixture for bare ground, this product provides control of the emerged annual weeds and control or partial control of emerged perennial weeds, woody brush and trees.

For control or partial control of the following perennial weeds, apply 1 to 2 quarts of this product plus 2 to 4 ounces of Oust XP per acre.

Bahiagrass	Johnsongrass
Bermudagrass	Poorjoe
Broomsedge	Quackgrass
Dallisgrass	Vaseygrass
Dock, curly	Vervain, blue
Dogfennel	
Fescue, tall	

#### Chemical Mowing - Perennials

This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Use 8 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass, quackgrass or reed canarygrass covers. Use 6 fluid ounces of this product per acre when treating Kentucky bluegrass. Apply treatments in 10 to 40 gallons of spray solution per acre.

Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

#### Chemical Mowing - Annuals

For growth suppression of some annual grasses, such as annual ryegrass, wild barley and wild oats growing in coarse turf on roadsides or other industrial areas, apply 4 to 5 fluid ounces of this product in 10 to 40 gallons of spray solution per acre. For best results, Apply when annual grasses are actively growing and before the seedheads are in the boot stage of development. Treatments may cause injury to the desired grasses.

#### 8.4 Turfgrass

This product may be used to control or suppress many winter annual weeds and tall fescue for effective release of dormant Bermudagrass and bahiagrass turf. Treat only when turf is dormant and prior to spring green-up.

Apply 8 to 64 fluid ounces of this product per acre. Apply the labeled rates in 10 to 40 gallons of water per acre. Use only in areas where bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated.

Treatments in excess of 16 fluid ounces per acre may result in injury or delayed green-up in highly maintained areas, such as golf courses and lawns. DO NOT apply tank mixtures of this product plus Oust XP in highly maintained turfgrass areas.

#### Actively Growing Bermudagrass

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. DO NOT apply more than 16 fluid ounces of this product per acre in highly maintained turfgrass areas. DO NOT apply tank mixtures of this product plus Oust XP in highly maintained turfgrass areas. Use only in areas where some temporary injury or discoloration can be tolerated.

#### Turfgrass Renovation, Seed or Sod Production

This product controls most existing vegetation prior to renovating turfgrass areas or establishing turfgrass grown for seed or sod. For maximum control of existing vegetation, delay planting or sodding to determine if any re-growth from escaped underground plant parts occurs. Where repeat treatments are necessary, sufficient re-growth must be attained prior to application. For warm-season grasses such as bermudagrass, summer or fall applications provide the best control. Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray.

Desirable turfgrasses may be planted following the above procedures.

Hand-held equipment may be used for spot treatment of unwanted vegetation growing in existing turfgrass. Broadcast or hand-held equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.

**PRECAUTIONS, RESTRICTIONS:** Do not disturb soil or underground plant parts before treatment. Delay tillage or renovation techniques such as vertical mowing, coring or slicing for 7 days after application to allow translocation into underground plant parts. If application rates total 3 quarts per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate was greater than 3 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

### 8.5 Habitat Management

#### Habitat Restoration and Management

This product may be used to control exotic and other undesirable vegetation in habitat management and natural areas, including rangeland and wildlife refuges. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broad-spectrum vegetation control requirements. Spot treatments can be made to selectively remove unwanted plants for habitat management and enhancement.

#### Wildlife Food Plots

This product may be used as a site preparation treatment prior to planting wildlife food plots. Any wildlife food species may be planted after applying this product, or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait 7 days after application before tillage to allow translocation into underground plant parts.

### 8.6 Hollow Stem Injection

This product may be applied through hand-held injection devices that deliver the proper amount of this product into targeted hollow-stem plants growing in any non-crop site specified on this label.

For control of the following hollow-stem plants, follow the use instructions below:

Castorbean, *Ricinus communis*

Inject 4 milliliters of this product per plant into the lower portion of the main stem.

Hemlock, Poison, *Conium maculatum*

Inject one leaf cane per plant 10 to 12 inches above the root crown with 5 milliliters of a 5-percent (by volume) solution of this product.

Hogweed, Giant, *Heracleum mantegazzianum*

Inject one leaf cane per plant 12 inches above the root crown with 5 milliliters of a 5-percent (by volume) solution of this product.

Horsetail, Field, *Equisetum arvense*

Inject one segment above the root crown with 0.5 milliliter of this product per stem. Use a low-volume

syringe capable of accurately delivering this amount of product.

Knotweed, Bohemian, *Polygonum bohemicum*

Inject 5 milliliters of this product per stem between the second and third internode.

Knotweed, Giant, *Polygonum sachalinense*

Inject 5 milliliters of this product per stem between the second and third internode.

Knotweed, Japanese, *Polygonum cuspidatum*

Inject 5 milliliters of this product per stem between the second and third internode.

Reed, Giant, *Arundo donax*

Inject 6 milliliters of this product per stem between the second and third internode.

Thistle, Canada, *Cirsium arvense*

Cut 8 to 9 of the tallest plants at bud stage in a clump with clippers. Use a cavity needle that is pushed into the stem center and then slowly removed as 0.5 milliliter of this product per stem is injected into the stem.

Note: The combined total for all treatments must not exceed 10.6 quarts of this product per acre. At 5 milliliters per stem, 7 quarts will treat approximately 1300 stems per acre.

#### 8.7 Injection and Frill (Woody Brush and Trees)

This product may be used to control woody brush and trees by injection or frill applications. Apply this product using suitable equipment that must penetrate into the living tissue. Apply the equivalent of 0.04 fluid ounce (1 milliliter) of this product for every 2 to 3 inches of trunk diameter at breast height (DBH). This is best achieved by applying a 50 to 100-percent concentration of this product either to a continuous frill around the tree or as cuts evenly spaced around the tree below all branches. As tree diameter increases in size, better results are achieved by applying diluted material to a continuous frill or more closely spaced cuttings. Avoid application techniques that allow runoff to occur from frilled or cut areas in species that exude sap freely. In species such as this, make the frill or cuts at an oblique angle to produce a cupping effect and use a 100-percent concentration of this product. For best results, apply during periods of active growth and after full leaf expansion.

#### 8.8 Non-food Tree, Shrub, and Vine Production Sites

This product may be used for weed control prior to planting or around established ornamentals, or any woody tree, shrub, or vine species, including arborvitae, azalea, boxwood, crabapple, eucalyptus, euonymus, fir, Douglas fir, jojoba, hollies, lilac, magnolia, maple, oak, poplar, privet, pine, spruce or yew, growing in plant nurseries, on Christmas tree farms, or on other non-food tree production site.

UNLESS OTHERWISE DIRECTED, DO NOT USE THIS PRODUCT AS AN OVER-THE-TOP BROADCAST SPRAY IN ORNAMENTALS AND CHRISTMAS TREES. Care must be taken to avoid contact of spray, drift or mist with foliage or bark of desirable ornamental species.

This product may be used to control weeds growing in and around greenhouses and shadehouses. Desirable vegetation must not be present during application and air circulation fans must be turned off until after the application has dried.

TYPES OF APPLICATION: Site Preparation, Post-directed, Trim-and-edge, Wiper Application

##### Site Preparation

This product may be used prior to planting any tree, shrub, or vine, including Christmas tree species, in a nursery or production setting.

##### Post-directed, Trim-and-Edge

This product may be used as a post-directed spray around established woody ornamental species, or to trim and edge around trees, buildings, sidewalks, roads, potted plants and other objects in a production setting.

Desirable plants may be protected from the spray solution by using shields or coverings made of cardboard or other impermeable material.

##### Wiper Application

This product may be used through wick or other suitable wiper applicators to control or partially control undesirable vegetation around established trees, shrubs, or vines. See the "SELECTIVE EQUIPMENT"

section of this label for further information about the proper use of wiper applicators.

#### 8.9 Parks, Recreational and Residential Areas

All of the instructions in the "Use Areas and Industrial Sites" section may be made in park and recreational areas.

This product may be used in parks, recreational and residential areas. It may be applied with any application equipment described in this label. This product may be used to trim-and-edge around trees, fences, paths, around buildings, sidewalks and other objects in these areas. This product may be used for spot treatment of unwanted vegetation. This product may be used to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting an area to ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects.

#### 8.10 Railroads

All of the instructions in the "Use Areas and Industrial Sites" section may be made to railroads.

##### Bare Ground, Ballast and Shoulders, Crossings, Spot Treatment

This product may be used to maintain bare ground on railroad ballast and shoulders. Repeat applications of this product may be used, as weeds emerge, to maintain bare ground. This product may be used to control tall-growing weeds to improve line-of-sight at railroad crossings and reduce the need for mowing along rights-of-way. For crossing applications, up to 80 gallons of spray solution per acre may be used.

**TANK MIXTURES:** This product may be tank mixed with the following products for ballast, shoulder, spot, bare ground and crossing treatments, provided that the specific product is labeled for use on these sites. Refer to the individual product labels for approved sites and application rates.

Arsenal	Oust XP
atrazine <sup>1</sup>	Outrider
dicamba <sup>1</sup>	Sahara DG
diuron <sup>1</sup>	simazine <sup>1</sup>
Escort	Spike 80 DF
Escort XP	Telar DF
Garlon 3A	Transline
Garlon 4	Vanquish
Hyvar X	Velpar DF
Hyvar X-L	Velpar L
Krovar I DF	2,4-D <sup>1</sup>
Oust	

<sup>1</sup> Tank mixtures with products containing this single generic active ingredient may be made provided the specific product is registered for this use.

##### Brush Control

This product may be used to control woody brush and trees on railroad rights-of-way. Apply 4 to 10 quarts of this product per acre as a broadcast spray, using boom-type or boomless nozzles. Up to 80 gallons of spray solution per acre may be used. Apply a 0.75- to 2-percent solution of this product when using high-volume spray-to-wet applications. Apply a 5- to 10-percent solution of this product when using low volume directed sprays for spot treatment.

**TANK MIXTURES:** This product may be mixed with the following products for ballast, shoulder, spot, bare ground and crossing treatments, as well as for enhanced control of woody brush and trees, provided that the specific product is labeled for use on these sites. Refer to the individual product labels for approved sites and application rates.

Arsenal	atrazine
dicamba	diuron <sup>1</sup>
Escort	Escort XP
Garlon 3A	Garlon 4
Hyvar X	Hyvar X-L
Krovar I DF	Outrider
Oust XP	simazine

Sahara DG  
Spike 80 DF  
Transline  
Velpar DF

Telar DF  
Vanquish  
Velpar L  
2,4-D<sup>1</sup>

<sup>1</sup> Tank mixtures with products containing this single generic active ingredient may be made provided the specific product is registered for this use.

#### Bermudagrass Release

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. Apply 1 to 3 pints of this product in up to 80 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species.

Bahiagrass	Johnsongrass
Bluestem, silver	Trumpet creeper
Fescue, tall	Vaseygrass

This product may be tank-mixed with Oust XP. If tank-mixed, use no more than 1 to 3 pints of this product with 1 to 2 ounces of Oust XP per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Oust XP label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds.

Bahiagrass	Fescue, tall
Blackberry	Johnsongrass
Bluestem, silver	Poorjoe
Broomsedge	Raspberry
Dallisgrass	Trumpet creeper
Dewberry	Vaseygrass
Dock, curly	Vervain, blue
Dogfennel	

Use only on well-established bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Make only one application per growing season, as severe bermudagrass injury may occur with repeated application.

#### 8.11 Roadsides

All of the applications in the "Use Areas and Industrial Sites" section may be made along roadsides.

##### Shoulder Treatments

This product may be used on road shoulders. It may be applied with boom sprayers, shielded boom sprayers, high-volume off-center nozzles, hand-held equipment, and similar equipment.

##### Guardrails, Other Obstacles to Mowing

This product may be used to control weeds growing under guardrails and around signposts and other objects along the roadside.

##### Spot Treatment

This product may be used as a spot treatment to control unwanted vegetation growing along roadsides.

**TANK MIXTURES:** This product may be tank-mixed with the following products for shoulder, guardrail, spot and bare ground treatments, provided that the specific product used is labeled for use on these sites. Refer to the individual product labels for approved sites and application rates.

atrazine <sup>1</sup>	Outrider
Clarity	Pendulum 3.3 EC
Crossbow L	Pendulum WDG
dicamba <sup>1</sup>	Plateau
diuron <sup>1</sup>	Princep DF
Endurance	Princep 4L
Escort	Ronstar 50WP
Escort XP	Sahara

Gallery 75DF	simazine'
Krovar 1 DF	Surflan
Landmark II MP	Telar
Landmark MP	Vanquish
Landmark XP	2,4-D'
Oust XP	

Tank mixtures with products containing this single generic active ingredient may be made provided the specific product is registered for this use.

#### Release of Bermudagrass or Bahiagrass

##### Dormant Applications

This product may be used to control or partially control many winter annual weeds and tall fescue for effective release of dormant bermudagrass or bahiagrass. Treat only when turf is dormant and prior to spring green-up. This product may also be tank-mixed with Outrider or Oust XP for residual control. Tank mixtures of this product with Oust or Oust XP may delay green-up.

For best results on winter annuals, treat when plants are in an early growth stage (below 6 inches in height) after most have germinated. For best results on tall fescue, treat when fescue is at or beyond the 4- to 6-leaf stage.

Apply 8 to 64 fluid ounces of this product in a tank mix with 0.75 to 1.3 ounces of Outrider herbicide per acre. Read and follow all label directions for Outrider herbicide.

Apply 8 to 64 fluid ounces of this product per acre alone or in a tank mixture with 0.25 to 1 ounce per acre of Oust XP in 10 to 40 gallons of water per acre. Use only in areas where bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated. To avoid delays in green-up and minimize injury, add no more than 1 ounce of Oust XP per acre on bermudagrass and no more than 0.5 ounce of Oust XP per acre on bahiagrass and avoid treatments when these grasses are in a semi-dormant condition.

##### Actively Growing Bermudagrass

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. Apply 1 to 3 pints of this product in 10 to 40 gallons of water per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species.

Bahiagrass	Johnsongrass
Bluestem, silver	Trumpet creeper
Fescue, tall	Vaseygrass

This product may be tank-mixed with Outrider herbicide for control or partial control of Johnsongrass and other weeds listed on the Outrider label. Use 9 to 32 fluid ounces of this product with 0.75 to 1.3 ounces of Outrider per acre. Use the higher rates of both products for control of perennial weeds or annual weeds greater than 6 inches in height.

This product may be tank-mixed with Oust XP. If tank-mixed, use no more than 1 to 2 pints of this product with 1 to 2 ounces of Oust XP per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Oust XP label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds.

Bahiagrass	Fescue, tall
Bluestem, silver	Johnsongrass
Broomsedge	Poorjoe
Dallisgrass	Trumpet creeper
Dock, curly	Vaseygrass
Dogfennel	Vervain, blue

Use only on well-established bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Make only one application of this tank-mix per growing season, as severe bermudagrass injury may occur with repeated application.

### Actively Growing Bahiagrass

For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 6 fluid ounces of this product in 10 to 40 gallons of water per acre. Apply 1 to 2 weeks after full green-up or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence.

For suppression up to 120 days, apply 4 fluid ounces of this product per acre, followed by an application of 2 to 4 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

This product may be used for control or partial control of Johnsongrass and other weeds listed on the Outrider herbicide label. Use 6 fluid ounces of this product with 0.75 to 2 ounces of Outrider per acre. Use the higher rates for control of perennial weeds or annual weeds greater than 6 inches in height. Use only on well-established bahiagrass.

A tank mixture of this product plus Oust XP may be used. Apply 6 fluid ounces of this product plus 0.25 ounce of Oust XP per acre 1 to 2 weeks following an initial spring mowing. Make only one application per year.

### 8.12 Rangelands

This product will control or suppress many annual weeds growing in perennial cool and warm-season grass rangelands, pastures, and industrial sites. Preventing weed seed production is critical to the successful control of annual grassy weeds invading these perennial grass sites. Follow-up applications in sequential years can eliminate most of the viable seeds. Delay grazing in the treated area to allow desirable perennials to grow, flower and re-seed the area.

**Bromus:** This product may be used to control or suppress downy brome (*Bromus tectorum*), Japanese brome (*Bromus japonicus*), soft chess (*Bromus mollis*), cheatgrass (*Bromus secalinus*), cereal rye and jointed goatgrass found in rangelands pastures and industrial sites. Apply 8 to 16 fluid ounces of this product per acre on a broadcast basis.

For best results, allow treatment to coincide with early seedhead emergence of the most mature plants. Delaying the application until this growth stage will maximize the emergence of other weedy grass flushes. Make applications to the same site each year until seed banks are depleted and the desirable perennial grasses can become re-established on the site.

**Medusahead:** To control or suppress medusahead, apply 16 fluid ounces of this product per acre at the 3-leaf stage when plants are actively growing. Delaying applications beyond this stage will result in reduced or unacceptable control. Repeat applications in subsequent years may be necessary to eliminate the seedbank before re-establishing desirable perennial grasses. Applications may be made in the fall or spring.

Applications may be made using ground or aerial equipment. Aerial applications for these uses may be made using fixed wing or helicopter equipment. For aerial applications, apply in 2 to 10 gallons of water per acre. For applications using ground equipment, apply in 10 to 20 gallons of water per acre.

#### Spot Treatment, Wiper Application

This product may be applied in rangeland, pastures or industrial sites as a spot treatment, or over the top of desirable grasses using wiper applicators to control tall weeds. Applications may be repeated in the same area at 30-day intervals.

For spot treatments or wiper application methods using rates of 3 quarts of this product per acre or less, the entire site or any portion of it may be treated. When spot treatments or wiper applications are made using rates above 3 quarts of this product per acre, no more than 10 percent of the total site may be treated at any one time. To achieve maximum performance, remove domestic livestock before application and wait 7 days after application before grazing livestock or harvesting for feed.

### 8.13 Utility Sites

In utilities, this product may be used along electrical power, pipeline and telephone rights-of-way, and in other sites associated with these rights-of-way, such as substations, roadsides, railroads or similar rights-of-way that run in conjunction with utilities.

This product may be used in utility sites and substations for bare ground, trim-and-edge around objects,



spot treatment of unwanted vegetation and to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting a utility site to ornamentals, flowers, turfgrass (sod or seed), or beginning construction projects.

Repeated applications of this product may be used, as weeds emerge, to maintain bare ground.

This product may also be used in preparing or establishing wildlife openings within these sites, maintaining access roads and for side trimming along utility rights-of-way.

For control of herbaceous weeds, use the lower tank mixture rates. For control of dense stands or tough-to-control woody brush and trees, use the higher rates.

**TANK MIXTURES:** This product may be tank-mixed with the following products for use on utility sites, provided that the specific product used is labeled for use on these sites. Refer to the individual product labels for approved sites and application rates.

2,4-D'	Outrider
Arsenal	pendimethalin'
atrazine'	Plateau
Barricade 65WG	Ronstar 50WP
dicamba'	Sahara
diuron'	simazine'
Endurance	Surflan AS
Escort	Surflan WDG
Escort XP	Telar DF
Garlon 3A2	Transline
Garlon 43	Vanquish
Krenite	Velpar DF
Krovar 1 DF	Velpar L
Oust	
Oust XP	

Tank mixtures with products containing this single generic active ingredient may be made provided the specific product is registered for this use.

2 Ensure that Garlon 3A is thoroughly mixed with water according to label directions before adding this product. Have spray mixture agitating at the time this product is added to avoid spray incompatibility problems.

3 For side trimming treatments, use this product alone or in a tank mixture with Garlon 4.

#### 8.14 Grass Seed or Sod Production

This product may be used in grass seed and sod production for preplant, at-planting, preemergence, removal of established stands, renovation, site preparation, shielded spraying, wiper application, spot treatment, and creating rows in annual ryegrass.

#### Preplant, Preemergence, At-Planting, Removal of Established Stands, Renovation, Site Preparation

This product controls most existing vegetation for purposes of renovating turf or forage grass seed areas or for establishing turfgrass grown for sod. It may also be used to destroy remaining undesired grass vegetation when production fields are converted to alternate species or crops. Make applications before, during, or after planting, or for renovation purposes. For maximum control of existing vegetation, delay planting to determine if any re-growth from escaped underground plant parts occurs. Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the herbicide spray. Where repeat treatments are necessary, sufficient re-growth must be attained prior to application. For warm-season grasses, such as bermudagrass, summer or fall applications provide best control. Broadcast equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested. Application rates up to 5 quarts per acre may be used to totally remove established stands of tough to kill grass species.

Do not disturb soil or underground plant parts before treatment. Delay tillage or renovation techniques such as vertical mowing, coring or slicing for 7 days after application to allow proper translocation into

underground plant parts. If application rates total 3 quarts per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 3 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

#### Shielded Sprayers

Apply 1 to 3 quarts of this product in 10 to 20 gallons of water per acre to control weeds between grass seed rows. Uniform planting in straight rows aids in shielded sprayer applications. Best results are obtained when the grass seed crop is small enough to easily pass by the protective shields.

Contact of this product in any manner with desirable vegetation may result in discoloration, stunting or destruction. Such damage shall be the sole responsibility of the applicator.

#### Wiper Application

This product may be applied over the top of desirable grasses using wiper applicators for the control of tall weeds.

Contact of this product in any manner with desirable vegetation may result in discoloration, stunting or destruction. Such damage shall be the sole responsibility of the applicator.

#### Spot Treatment

Apply a 1.5-percent solution of this product using hand-held spray equipment to control weeds within established vegetation prior to heading of grasses grown for seed. Hand-held equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.

The crop sprayed in the treated area will be killed. Take care not to spray or allow spray to drift outside the target area in order to avoid unwanted grass injury or destruction.

#### Creating Rows in Annual Ryegrass

Apply 1 to 2 pints of this product per acre. Best results are obtained when applications are made before the ryegrass reaches 6 inches in height. Use the higher rate within this specified range when ryegrass is greater than 6 inches in height.

Set nozzle heights to allow the establishment of the desired row spacing. Use of low-pressure nozzles, or drop nozzles designed to target the application over a narrow band provide the best results.

Take care not to spray or allow spray to drift outside target area in order to avoid unwanted grass destruction.

Grower assumes all responsibility for crop losses resulting from misapplication of this product.

#### 8.15 Pastures

This product may be applied to any pasture grass (other than food crops in the Gramineae family), including bahiagrass, bermudagrass, bluegrass, brome, fescue, guineagrass, kikuyugrass, orchardgrass, pangola grass, ryegrass, timothy, and wheatgrass. Application can be made as a spot treatment, wiper application, preplant, preemergence, pasture renovation, or postemergent broadcast.

#### Preplant, Preemergence, Pasture Renovation

This product may be applied for weed control prior to planting or emergence of forage grasses. This product may also be applied to control perennial pasture species listed on this label prior to replanting.

If application rates total 3 quarts per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 3 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

#### Spot Treatment, Wiper Application

This product may be applied in pastures as a spot treatment, or over the top of desirable grasses using wiper applicators to control tall weeds. Applications may be repeated in the same area at 30-day intervals.

For spot treatments or wiper application methods using rates of 3 quarts of this product per acre or less, the entire field or any portion of it may be treated. When spot treatments or wiper application are made using rates above 3 quarts of this product per acre, no more than 10 percent of the total pasture may be treated at any one time. To achieve maximum performance, remove domestic livestock before application and wait 7

days after application before grazing livestock or harvesting for feed.

#### Postemergent Weed Control (Broadcast Treatments)

This product may be applied to pastures to suppress competitive growth and seed production of annual weeds and undesirable vegetation in pastures. For selective applications with broadcast spray equipment, apply 12 to 16 fluid ounces of this product per acre in early spring before desirable perennial grasses break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy.

Some stunting of perennial grasses will occur if broadcast applications are made when plants are not dormant. Use of higher application rates will cause stand reductions. No waiting period is required between application and grazing or harvesting for feed. Do not apply more than 3 quarts of this product per acre per year onto pasture grasses except for renovation uses as described previously in this section.

#### Weed Control in Dormant Pastures

This product may be applied to dormant pastures to suppress competitive growth and seed production of annual weeds and other undesirable vegetation. For selective weed control, apply 12 to 16 fluid ounces of this product per acre using broadcast spray equipment in early spring before desirable perennial grasses break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy.

Some stunting of perennial grasses will occur if broadcast applications are made when plants are not dormant. Use of higher application rates will cause stand reductions. No waiting period between application and grazing or harvesting for feed is required. Do not apply more than 3 quarts of this product per acre per year onto pasture grasses except for renovation purposes.

### 9.0 WEEDS CONTROLLED

Always use the higher rate of this product per acre within the specified range when weed growth is heavy or dense or weeds are growing in an undisturbed (non-cultivated) area.

Reduced results may occur when treating weeds heavily covered with dust. For weeds that have been mowed, grazed or cut, allow re-growth to occur prior to treatment.

Refer to the following label sections for application rates of this product for the control of annual and perennial weeds and woody brush and trees. For difficult to control perennial weeds and woody brush and trees, where plants are growing under stressed conditions, or where infestations are dense, this product may be used at 5 to 10 quarts per acre for enhanced results.

#### 9.1 Annual Weeds

Use 1 quart per acre if weeds are less than 6 inches in height or runner length and 1.5 quarts to 4 quarts per acre if weeds are over 6 inches in height or runner length or when weeds are growing under stressed conditions. Use the higher rate for tough-to-control species regardless of the weed size at application. Treat tough-to-control weeds early when they are relatively small. This product may be tank mixed provided the tank-mix product is labeled for use on the target site. Refer to the individual product labels for approved sites and application rates.

For spray-to-wet applications, apply a 0.5-percent solution of this product to weeds less than 6 inches in height or runner length. For annual weeds over 6 inches tall, or for smaller weeds growing under stressed conditions, use a 1- to 2-percent solution. Use the higher rate for tough-to-control species or for weeds over 24 inches tall. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds.

For low volume directed spray applications, use a 4- to 7-percent solution of this product. Ensure that spray coverage is uniform with at least 50 percent of the foliage contacted. Coverage of the top one half of the plant is important for best results. To ensure adequate spray coverage, spray both sides of large or tall weeds when foliage is thick and dense or where there are multiple spouts.

WEED SPECIES	
Anoda, spurred	Lamb's-quarters*
Barley*	Little barley*
Barnyardgrass*	London rocket*
Bittercress*	Mayweed
Bassia, fivehook	Medusahead*
Black nightshade*	Morningglory ( <i>Ipomoea spp</i> )
Bluegrass, annual*	Mustard, blue*
Bluegrass, bulbous*	Mustard, tansy*
Brome, downy*	Mustard, tumble*
Brome, Japanese*	Mustard, wild*
Browntop panicum*	Oats
Buttercup*	Pigweed*
Carolina foxtail*	Plains/Tickseed coreopsis*
Carolina geranium	Prickly lettuce*
Castor bean	Puncturevine
Cheatgrass*	Purslane, common
Cheeseweed ( <i>Malva parviflora</i> )	Ragweed, common*
Chervil*	Ragweed, giant
Chickweed*	Red rice
Cocklebur*	Russian thistle
Copperleaf, hophornbeam	Rye*
Corn*	Ryegrass*
Corn speedwell*	Sandbur, field*
Crabgrass*	Shepherd's-purse*
Dwarf dandelion*	Sicklepod
Eastern manna grass*	Signalgrass, broadleaf*
Eclipta*	Smartweed, ladythumb*
Fall panicum*	Smartweed, Pennsylvania*
Falsedandelion*	Sowthistle, annual
Falseflax, smallseed*	Sowthistle, annual
Fiddleneck	Spanishneedles
Field pennycress*	Speedwell, purslane*
Filaree	Sprangletop*
Fleabane, annual*	Spurge, annual
Fleabane, hairy ( <i>Conyza bonariensis</i> )*	Spurge, prostrate*
Fleabane, rough*	Spurge, spotted*
Florida pulley	Spurry, umbrella*
Foxtail*	Starthistle, yellow
Goatgrass, jointed*	Stinkgrass*
Goosegrass	Sunflower*
Grain sorghum (milo)*	Teaweed/ Prickly sida
Groundsel, common*	Texas panicum*
Hemp sesbania	Velvetleaf
Henbit	Virginia copperleaf
Horseweed/Marestail ( <i>Conyza canadensis</i> )	Virginia pepperweed*
Itchgrass*	Wheat*
Johnsongrass, seedling	Wild oats*
Junglerice	Witchgrass*
Knotweed	Woolly cupgrass*
Kochia	Yellow rocket

## 9.2 Perennial Weeds

Best results are obtained when perennial weeds are treated after they reach the reproductive stage of growth (seedhead initiation in grasses and bud formation in broadleaves). For non-flowering plants, best results are obtained when the plants reach a mature stage of growth. In many situations, treatments are required prior to these growth stages. Under these conditions, the higher application rate.

Ensure thorough coverage when using spray-to-wet treatments with hand-held equipment. For best results, use a 1.5-percent solution on tough to control weeds such as Bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle.

For low volume directed spray applications, use a 5- to 10-percent solution of this product. Spray coverage should be uniform with at least 50 percent of the foliage contacted. Coverage of the top one half of the plant is important for best results. To ensure adequate spray coverage, spray both sides of large or tall weeds when foliage is thick and dense or where there are multiple sprouts.

Allow 7 or more days after application before tillage.

WEED SPECIES	Rate (QT/A)	Hand-Held % Solution
Alfalfa*	1	2
Alligatorweed*	4	1.5
Anise (fennel)	2-4	1-2
Bahiagrass	3-5	2
Beachgrass, European ( <i>Ammophila arena</i> )	-	5
Bentgrass*	1.5	2
Bermudagrass	5	2
Bermudagrass, water (knotgrass)	1.5	2
Bindweed, field	4-5	2
Bluegrass, Kentucky	2	2
Blueweed, Texas	4-5	2
Brackenfern	3-4	1-1.5
Bromegrass, smooth	2	2
Bursage, woolly-leaf	-	2
Canarygrass, reed	2-3	2
Cattail	3-5	2
Clover, red, white	3-5	2
Cogongrass	3-5	2
Dallisgrass	3-5	2
Dandelinn	3-5	2
Dock, curly	3-5	2
Dogbane, hemp	4	2
Fescue (except tall)	3-5	2
Fescue, tall	1-3	2
German ivy	2-4	1-2
Guineagrass	3	1
Horsenettle	3-5	2
Horseradish	4	2
Iceplant	2	1.5-2
Jerusalem artichoke	3-5	2
Johnsongrass	2-3	1
Kikuyugrass	2-3	2
Knapweed	4	2
Lantana	-	1-1.25
Lespedeza	3-5	2
Milkweed, common	3	2
Muhly, wirestem	2	2
Mullein, common	3-5	2
Napiergrass	3-5	2
Nightshade, silverleaf	2	2
Nutsedge, purple, yellow	3	1-2
Orchardgrass	2	2
Pampasgrass	3-5	1.5-2
Paragrass	3-5	2
Pepperweed, perennial	4	2
Phragmites*	3-5	1-2
Poison hemlock	2-4	1-2
Quackgrass	2-3	2
Reed, giant	4-5	2
Ryegrass, perennial	2-3	1
Smartweed, swamp	3-5	2
Spurge, leafy*	-	2
Sweet potato, wild*	-	2
Thistle, artichoke	2-3	1-2
Thistle, Canada	2-3	2
Timothy	2-3	2
Torpedograss*	4-5	2
Trumpet creeper*	2-3	2
Vaseygrass	3-5	2
Velvetgrass	3-5	2
Wheatgrass, western	2-3	2

\* Partially Controlled

### 9.3 Woody Brush and Trees

Apply this product after full leaf expansion, unless otherwise directed on this label, or in separate supplemental labeling or Fact Sheets published for this product. Use the higher rate for larger plants and/or dense areas of growth. On vines, use the higher rate for plants that have reached the woody stage of growth. Best results are obtained when application is made in late summer or fall after fruit formation.

In arid areas, best results are obtained when applications are made in the spring to early summer when brush species are at high moisture content and are flowering.

For best results when using hand-held equipment, use a 1.5-percent solution on harder-to-control woody brush and trees.

For low volume directed-spray applications, apply a 5 to 10-percent solution of this product. Ensure that spray coverage is uniform with at least 50-percent of the foliage contacted. Coverage of the top one-half of the plant is important for best results. To ensure adequate spray coverage, spray both sides of large or tall woody brush and trees, when foliage is thick and dense, or where there are multiple spouts.

Symptoms may not appear prior to frost or senescence with fall treatments.

Allow 7 or more days after application before tillage, mowing or removal. Repeat treatments may be necessary to control plants regenerating from underground parts or seed. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Reduced performance may result if fall treatments are made following a frost.

WEED SPECIES	Broadcast Rate (QT/A)	Hand-Held Spray-to-Wet % Solution
Alder	3-4	1-1.5
Ash*	2-5	1-2
Aspen, quaking	2-3	1-1.5
Bearclover (Bearmat)*	2-5	1-2
Beech*	2-5	1-2
Birch	2	1
Blackberry	3-4	1-1.5
Blackgum	2-5	1-2
Bracken	2-5	1-2
Broom; French, Scotch	2-5	1.5-2
Buckwheat, California*	2-4	1-2
Cascara*	2-5	1-2
Catsclaw*	-	1-1.5
Ceanothus*	2-5	1-2
Chamise*	2-5	1
Cherry; bitter, black, pin	2-3	1-1.5
Coyote brush	3-4	1.5-2
Deerweed	2-5	1
Dogwood*	2-5	1-2
Elderberry	2	1
Elm*	2-5	1-2
Eucalyptus	-	2
Gorse*	2-5	1-2
Hasardia*	2-4	1-2
Hawthorn	2-3	1-1.5
Hazel	2	1
Hickory*	2-5	1-2
Honeysuckle	3-4	1-1.5
Hornbeam, American*	2-5	1-2
Kudzu	4	2
Locust, black*	2-4	1-2
Madrone resprouts*	-	2
Manzanita*	2-5	1-2
Maple, red	2-4	1-1.5

Maple, sugar	-	1-1.5
Monkey flower*	2-4	1-2
Oak; black, white*	2-4	1-2
Oak, post	3-4	1-1.5
Oak; northern, pin	2-4	1-1.5
Oak, Scrub*	2-4	1-1.5
Oak; southern red	2-3	1-1.5
Peppertree, Brazilian (Florida holly)*	2-5	1-2
Persimmon*	2-5	1-2
Pine	2-5	1-2
Poison ivy	4-5	2
Poison oak	4-5	2
Poplar, yellow*	2-5	1-2
Redbud, eastern	2-5	1-2
Rose, multiflora	2	1
Russian olive*	2-5	1-2
Sage, black	2-4	1
Sage, white*	2-4	1-2
Sage brush, California	2-4	1
Salmonberry	2	1
Saltcedar*	2-5	1-2
Sassafras*	2-5	1-2
Sourwood*	2-5	1-2
Sumac; laurel, poison, smooth, sugarbush, winged*	2-4	1-2
Sweetgum	2-3	1-1.5
Swordfern*	2-5	1-2
Tallowtree, Chinese	-	1
Tan oak resprouts*	-	2
Thimbleberry	2	1
Tobacco, tree*	2-4	1-2
Toyon*	-	2
Trumpet creeper	2-3	1-1.5
Vine maple*	2-5	1-2
Virginia creeper	2-5	1-2
Waxmyrtle, southern*	2-5	1-2
Willow	3	1
Yerbasanta*	-	2

\* Partial control

#### 10.0 LIMIT OF WARRANTY AND LIABILITY

REPAR CORPORATION warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for Use label booklet ("Directions") when used in accordance with those Directions under the conditions described therein. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and limitations stated herein.

Buyer and all users shall promptly notify this Company of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

To the extent consistent with applicable law, buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this Company, including, but not limited to, incompatibility with products other than those set forth in the Directions, application to or contact with desirable vegetation, failure of this product to control weed biotypes which develop resistance to glyphosate, unusual weather, weather conditions which are outside the range considered normal at the application site and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

This Company does not warrant any product reformulated or repackaged from this product except in accordance with this Company's stewardship requirements and with express written permission from this Company.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF THIS COMPANY OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF THIS COMPANY OR ANY OTHER SELLER, THE REPLACEMENT OF SUCH QUANTITY, OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY. TO THE FULLEST EXTENT PERMITTED BY LAW, IN NO EVENT SHALL THIS COMPANY OR ANY OTHER SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES.

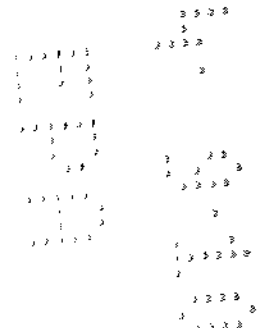
Upon opening and using this product, buyer and all users are deemed to have accepted the terms of this LIMIT OF WARRANTY AND LIABILITY which may not be varied by any verbal or written agreement. If terms are not acceptable, return at once unopened.

Manage, Outrider, Roundup Ready, Monsanto and Vine symbol are trademarks of Monsanto Technology LLC.

Other trademarks are the property of their respective owners.

EPA Reg. No. 69361-

REPAR CORPORATION  
P.O. Box 4321  
Silver Spring, MD 20914





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## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR TOPDOG 41% PLUS BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using TOPDOG 41% PLUS as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container and on this supplemental labeling. This supplemental labeling must be in the possession of the user at the time of pesticide application.

### TOPDOG 41% PLUS

Herbicide

EPA Reg. No. 69361-

[INSERT TITLE OF SUPPLEMENTAL LABEL]

Keep out of reach of children

### WARNING! AVISO!

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail)

In case of an emergency involving this product, call collect, day or night, call CHEMTREC 1-800-424-9300.

TOPDOG 41% PLUS is a registered trademark of REPAR CORPORATION.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This labeling must be in the possession of the user at the time of herbicide application.

[For uses other than on Roundup Ready crops: AVOID CONTACT OF THIS HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY CROPS), DESIRABLE PLANTS AND TREES, AS SEVERE INJURY OR DESTRUCTION MAY RESULT.]

[Optional text for uses on Roundup Ready crops only. ROUNDUP READY CROPS CONTAIN A PATENTED GENE THAT PROVIDES TOLERANCE TO GLYPHOSATE, THE ACTIVE INGREDIENT IN THIS PRODUCT. THIS PRODUCT WILL CAUSE SEVERE CROP INJURY OR DESTRUCTION AND YIELD LOSS IF APPLIED TO CROPS THAT ARE NOT GLYPHOSATE TOLERANT. AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, OR ANY DESIRABLE PLANTS THAT DO NOT CONTAIN A GLYPHOSATE TOLERANCE GENE, AS SEVERE PLANT INJURY OR DESTRUCTION MAY RESULT.]

[Optional text for non-crop uses only. AVOID CONTACT OF HERBICIDE WITH FOLIAGE, STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.]

[For uses other than on Roundup Ready crops: See "PRODUCT INFORMATION" and "MIXING" sections of the label booklet for TOPDOG 41% PLUS for essential product information.]

[Optional text for uses on Roundup Ready crops only. See the "PRODUCT INFORMATION", "MIXING" and "ROUNDUP READY CROPS" sections of the label booklet for TOPDOG 41% PLUS for essential product information.]

[INSERT SPECIFIC DIRECTIONS FOR USE TEXT FROM THE FOLLOWING SECTIONS HERE]

Read the "Limit of Warranty and Liability" in the label booklet for TOPDOG 41% PLUS before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

REPAR CORPORATION  
P.O. Box 4321  
Silver Spring, MD 20914

## A. USE IN DORMANT ALFALFA

### DIRECTIONS FOR USE

This product will control or suppress many weeds, including quackgrass, downy brome and cheatgrass in dormant alfalfa.

Apply 8 to 12 fluid ounces of this product per acre. Apply in the spring to alfalfa that is dormant. Apply after spring temperatures have warmed enough to encourage resumption of weed growth, but prior to initiation of trifoliate leaf expansion of alfalfa. Application made after expansion of the first trifoliate leaf of the alfalfa will cause growth reduction and reduced crop yield.

Do not use ammonium sulfate when spraying dormant alfalfa with TOPDOG 41% PLUS.

Do not use this product where a slight yield reduction in the first cutting of alfalfa cannot be tolerated. Do not make more than one application per year.

Allow 36 hours after application before grazing livestock or harvesting.

Slight discoloration of the alfalfa may occur, but the alfalfa will re-green and re-grow under moist soil conditions as effects of this product wear off.

Application of this product is limited to persons who have attended an approved training program. Application of this product can cause crop injury. Any crop injury is the sole responsibility of the applicator.

## B. CONTROL OF ANNUAL WEEDS IN COASTAL BERMUDAGRASS PASTURES PRIOR TO SPRING GROWTH OR IMMEDIATELY AFTER FIRST CUTTING

### DIRECTIONS FOR USE

This product may be applied at 16 fluid ounces per acre to control the weeds listed below and most other winter annual grass and broadleaf weeds in established coastal bermudagrass pastures.

Annual bluegrass	Johnsongrass, seedling	Sandbur, field
Cheat	Little barley	Sunflower
Crabgrass	Oats	Wheat
Henbit	Ryegrass, Italian	Wild mustard

### TIMING OF APPLICATION

Application prior to spring growth: Apply this product in either late winter or early spring, but before new coastal bermudagrass growth begins in the spring. Application to new growth can damage the bermudagrass.

Remove domestic livestock from the pasture before making the application. Wait 60 days after making this application before grazing or harvesting the treated area.

Application following the first cutting: Apply this product after the first bermudagrass cutting when the bermudagrass has not yet begun to re-grow. Application made after re-growth has begun can damage the bermudagrass.

Remove domestic livestock from the pasture before making the application. Wait 28 days after making this application before grazing or harvesting the treated area.

NOTE: ONLY ONE APPLICATION PER YEAR MAY BE MADE TO ANY ONE FIELD. A SPRING APPLICATION PRIOR TO GROWTH AND AN APPLICATION FOLLOWING THE FIRST CUTTING MAY NOT BE MADE ON THE FIELD DURING THE SAME YEAR.

### C. DISTRIBUTION AND USE ONLY WITHIN SOUTH DAKOTA, FOR NON-SELECTIVE CONTROL OF LISTED ANNUAL WEEDS IN SMALL GRAIN CROPPING SYSTEMS

#### DIRECTIONS FOR USE

Refer to the TOPDOG 41% PLUS label for application rates and weeds controlled.

For ground application, apply in 3 to 5 gallons of water per acre. For aerial application, apply in 2 to 3 gallons of water per acre.

#### ATTENTION

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.

Do not allow the herbicide solution to mist, drip, drift, or splash onto desirable vegetation since minute quantities of this herbicide can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended. The likelihood of injury occurring from the use of this product is greatest when winds are gusty or in excess of 5 miles per hour or when other conditions, including lesser wind velocities, will allow spray drift to occur. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) that are likely to drift. AVOID APPLYING AT EXCESSIVE SPEED OR PRESSURE.

NOTE: To prevent injury to adjacent desirable vegetation, appropriate buffer zones must be maintained. Adjust boom height on ground equipment to prevent streaked, overlapped or uneven application. Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations that dispense spray as fine spray droplets.

For aerial application, do not angle nozzles forward into the airstream, and do not increase spray volume by increasing nozzle pressure.

Ensure uniform application. Use appropriate marking devices when applying herbicides by air.

Avoid spraying when weeds are subject to moisture stress, when dust is on foliage, or when straw canopy covers the weeds.

Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residue of this product accumulated during spraying or from spills. PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF PART.

LANDING GEAR IS MOST SUSCEPTIBLE. The maintenance of an organic coating (paint) that meets aerospace specification MIL-C-38413 may prevent corrosion.

### D. CONTROL AND MANAGEMENT OF GLYPHOSATE-RESISTANT HORSEWEED (MARESTAIL, *Conyza canadensis*) IN CROP AND NON-CROP AREAS

#### DIRECTIONS FOR USE

For ground application, apply in 10 to 20 gallons of water per acre. For aerial application, apply in 3 to 15 gallons of water per acre.

For tank mixtures, read and carefully observe the cautionary statements and all other information appearing on the product labels, supplemental labeling and/or Fact Sheets published separately for all herbicides used.

## CORN

### Preplant, At-Planting, Preemergence

Apply a tank mixture of this product (32 fluid ounces per acre) plus 2,4-D (0.5 pound active ingredient per acre) before horseweed exceeds 6 inches in height. See the 2,4-D product label for time intervals that are required between application and planting.

Dicamba may be included in the tank mixture with this product. Refer to the dicamba product label for the time intervals that are required between application and planting, and other geographic use restrictions.

Atrazine (1 to 2 pounds active ingredient per acre) may be included in the tank mixture to provide residual control. Refer to the atrazine product label for specific use instructions.

### In-crop (Corn Hybrids with Roundup Ready® 2 Technology only)

Corn hybrids with Roundup Ready 2 Technology include Roundup Ready Corn 2 and seed products displaying the Roundup Ready 2 Technology logo.

Apply a tank mixture of this product (32 fluid ounces per acre) plus Clarity (8 to 16 fluid ounces per acre) or 2,4-D (0.5 to 1.0 pound active ingredient per acre) between corn emergence and the 5-leaf stage of growth (approximately 8 inches tall).

Dicamba may be included in the tank mixture with this product. Refer to the dicamba product label for the time intervals that are required between application and planting and other geographic use restrictions.

## COTTON

### Preplant

For control of horseweed, apply this product (32 fluid ounces per acre) in a tank-mix with Clarity (8 fluid ounces per acre). This application must be made 21 to 35 days before planting and before horseweed reaches 6 inches in height. In order to avoid crop injury, a minimum interval of 21 days during which there is at least 1 inch of cumulative rainfall must occur between Clarity application and planting of cotton.

2,4-D may be included in the tank mixture with this product. Refer to the 2,4-D product label for the time intervals that are required between application and planting and other geographic use restrictions.

### Post-directed (Roundup Ready Cotton and Roundup Ready Flex Cotton varieties only)

Management of early season weed competition and the development of a crop height differential between cotton and horseweed are often achieved by a combination of preplant burndown and postemergence over-the-top and/or directed applications of this product. These measures enhance the development of a height differential that is necessary to successfully make post-directed treatments. Make in-crop, post-directed applications of MSMA (2 pounds active ingredient per acre) tank-mixed with diuron (0.5 to 0.75 pound active ingredient per acre) when the temperature is 80°F or higher.

## SOYBEAN

### Preplant

It is strongly encouraged that horseweed be controlled prior to planting. Apply a tank mixture of this product (32 fluid ounces per acre) with 2,4-D (0.5 pounds active ingredient per acre) before horseweed exceeds 6 inches in height. See the 2,4-D product label for time intervals that are required between application and planting.

### In-crop (Roundup Ready Soybean and Roundup Ready 2 Yield Soybean varieties only)

This treatment can be used as a salvage treatment for a horseweed infestation that was not controlled prior to planting and before horseweed exceeds 6 inches in height. Apply a tank mixture of this product (32 fluid ounces per acre) with FirstRate (0.3 ounces per acre) between full emergence of the first trifoliate leaf and 50% flowering stage of soybean.

## TREE AND VINE CROPS

### Orchards (Pome Fruit, Stone Fruit and Tree Nuts)

3. Withdraw the application (the Agency retains 25% of the full fee for the fee category estimated); or

If none of these options is selected and implemented by the applicant within the 21 day content review period, the Agency will reject the application and retain 25% of the full fee of the category identified.

#### Conventional New Product Applications

When the Registration Division identifies an unapproved inert on a CSF with an application for a new product that the applicant has not identified as requiring an inert approval (R311, R312 or R313), it will contact the applicant with the following options:

1. Correct the application by, for instance, correcting the inert's identity or CAS number, providing documentation that the inert has been approved, or removing the unapproved inert from the CSF or replacing it with one that is approved for the application's uses; or
2. Submit the information and data needed for the Agency to approve the unapproved inert, including any required petition to establish or amend a tolerance or exemption from a tolerance. (This option may change the PRIA category for the application, which could require a longer decision review time and a larger fee. If additional fees are due, they must be received by the Agency within the 21 day content review period.)
3. Withdraw the application (the Agency retains 25% of the full fee for the fee category estimated); or

If none of the above options is selected and implemented during the 21-day content-review period, the Agency will reject the application and retain 25% of the appropriate fee for the new product-inert approval category.

#### PIP Applications

When the Biopesticide and Pollution Prevention Division identifies an unapproved inert on a PIP CSF and a request to approve the inert does not accompany the application, it will contact the applicant with the following options:

1. Correct the application by, for instance, correcting the spelling or name of the inert to that in 40 CFR 174, or providing documentation that the inert has been approved; or
2. Submit the information and data needed for the Agency to approve the unapproved inert. If an inert ingredient tolerance exemption petition is required, the petition must be received by the Agency and the B903 fee paid within the 21 day period. If this option is selected and implemented, the Agency will discuss harmonizing the timeframe for both actions.

3. Withdraw the application (the Agency retains 25% of the full fee for the fee category estimated); or

If none of the above options is selected and implemented during the 21 day content review period, the Agency will reject the application and retain 25% of the fee.

B. A policy on documentation of offers to pay is still being developed, however, for a me-too or fast track (similar/identical) new product, R300 or A530, an application without the necessary authorizations of offers to pay will be placed into either R301 or A531. The Agency recommends that authorizations of offers to pay be submitted with other PRIA applications to avoid delays in the Agency's decision.

C. Biopesticide applicants are advised to contact the Agency and discuss study waivers prior to submitting their application to the Agency. Documentation of such discussions should be submitted with the study waiver.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

April 13, 2010

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

OPP Decision Number: D-431839  
EPA File Symbol or Registration Number: 69361-EI  
Product Name: TOP DOG 41% PLUS  
EPA Receipt Date: 09-Apr-2010  
EPA Company Number: 69361  
Company Name: REPAR CORP

N. BHUSHAN MADAVA  
MANDAVA ASSOCIATES, LLC  
REPAR CORP  
1050 CONN. AVE., N.W., SUITE 1000  
WASHINGTON, DC 20036

SUBJECT: Receipt of Registration Application Subject to Registration Service Fee

Dear Registrant:

The Office of Pesticide Programs has received your application and certification of payment. If you submitted data with this application, the results of the PRN-86-5 screen will be communicated separately. During the administrative screen, the Office of Pesticide Programs has determined that this Action is subject to a Pesticide Registration Service Fee as defined in the Pesticide Registration Improvement Act.

The Action has been identified as Action Code: R300

NEW PRODUCT;ME-TOO PRODUCT FAST TRACK;

No additional payment is due at this time.

If you have any questions, please contact the Pesticide Registration Service Fee Ombudsman at (703) 305-6249.

Sincerely, *Peresa Downs*  
Front End Processing Staff  
Information Technology & Resources Management Division



# Fee for Service

{8721383~

This package includes the following

- ☒ New Registration
- ☐ Amendment

~~Studies?~~ ☐ Fee Waiver?  
☒ volpay % Reduction:       

for Division

- ☐ AD
- ☐ BPPD
- ☒ RD

Risk Mgr. 25

Receipt No.

S-

872138

EPA File Symbol/Reg. No.

69361-EI

Pin-Punch Date:

4/9/2010

☐ This item is NOT subject to FFS action.

## Action Code:

Requested: R300

Granted: R300

Amount Due: \$ 1,365.<sup>00</sup>

*No inerts present. APB*

## Parent/Child Decisions:

☒ Inert Cleared for Intended Use



Uncleared Inert in Product

Reviewer: *XCB*

Date: 4-13-10

Remarks:

*100% repack*

Receipt for Section 3			
S:	872138	Resubmission:	<input type="radio"/> Yes <input checked="" type="radio"/> No
Regulatory Type:	Product Registration - Section 3	Fee For Service:	<input checked="" type="radio"/> Yes <input type="radio"/> No
Application Type:	New Registration	Billable:	<input checked="" type="radio"/> Yes <input type="radio"/> No
Company:	69361 REPAR CORP		V
Risk Manager:	Registration Division, Risk Management Team 25		
Product #:	69361-EI	Product Name:	TOP DOG 41% PLUS
Override#:			
Me Too Section3:		Me Too Product Name:	
Application Date:	01-Apr-2010	OPP Rec'd Date:	09-Apr-2010
Front End Date:	12-Apr-2010	Risk Manager Send Date:	
FFS Due Date:		Negotiated Due Date:	
OPP Target Date:			
Fast Track:	<input type="checkbox"/>	New Ingredient:	<input type="checkbox"/>
Receipt Description:		View/Edit	
New registration		New Ingredient Request Date:	
		New Ingredient Received Date:	
Form A:	<input type="checkbox"/>	Signature Date:	
Form B:	<input type="checkbox"/>	Signature Date:	

Print Letter

Enter More Information

Tracking

Receipt Content

CSF

# **FEE FOR SERVICE**

**Madhu Mandava**

**From:** paygovadmin@mail.doc.twai.gov  
**Sent:** Wednesday, April 07, 2010 6:49 PM  
**To:** Madhu Mandava  
**Subject:** Pay.Gov Payment Confirmation

THIS IS AN AUTOMATED MESSAGE. PLEASE DO NOT REPLY.

Your transaction has been successfully completed.

### Transaction Summary

Application Name: PRIA Service Fees  
Pay.gov Tracking ID: 2S0L4R82  
Agency Tracking ID: 74110364932

Account Holder Name: Madhu Mandava  
Transaction Type: Sale  
Transaction Amount: \$1,365.00  
Billing Address: 1S404 Tindlay Street  
City: Silver Spring  
State/Province: MD  
Zip/Postal Code: 20905  
Country: USA  
Card Type: American Express  
Card Number: \*\*\*\*\*1016  
Transaction Date: Apr 7, 2010 7:49:19 PM

Decision Number:  
Registration Number:  
Company Name: Repar Corporation  
Company Number: 69361  
Action Code: R300

[illegible]

## Online Payment

## Online Payment

## Step 3: Confirm Payment

1 | 2 | 3

Thank you.

Your transaction has been successfully completed.

## Pay.gov Tracking Information

Application Name: PRIA Service Fees

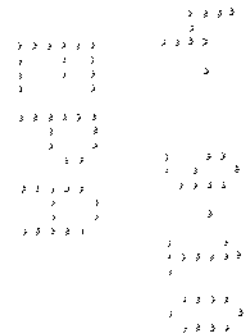
Pay.gov Tracking ID: 250L4R82

Agency Tracking ID: 74110364932

Transaction Date and Time: 04/07/2010 19:49 EDT

## Payment Summary

Address Information	Account Information	Payment Information
Account Holder Madhu Name: Mandava 15404 Tindlay Billing Address: Street Billing Address 2: City: Silver Spring State / Province: MD Zip / Postal Code: 20905 Country: USA	American Card Type: Express Card Number: *****1016 Decision Number: Registration Number: Repar Company Name: Corporation Company Number: 69361 Action Code: R300	Payment Amount: \$1,365.00 Transaction Date 04/07/2010 and Time: 19:49 EDT



Please read instructions on reverse before completing form.

Form Approved. UMB No. 2070-0060. Approval expires 2-28-95



United States  
Environmental Protection Agency  
Washington, DC 20460

☒ Registration  
☐ Amendment  
☐ Other

OPP Identifier Number

### Application for Pesticide - Section I

1. Company/Product Number 69361- <i>EI</i>	2. EPA Product Manager James Tomkins	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Top Dog 41% Plus	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Repar Corporation 8070 Georgia Avenue, Suite 209 Silver Spring, MD 20910 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. [REDACTED] Product Name [REDACTED]	

### Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input checked="" type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

New Product; Me-Too Registration; Fast Track: PRIA Category: R 300  
Submitted Fee: \$1365.00 Copy of Payment Receipt Attached  
Please send all correspondence to Mandava Asociales, L.L.C., 6860 N. Dallas Pkwy, Suite 200, Plano, TX 75024 Attn: Madhu Mandava  
E-mail: madhu@mandava.com Phone: 972-265-7924 Fax: 972-265-7942

### Section - III

1. Material This Product Will Be Packaged In:			
Child-Resistant Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Unit Packaging <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2. Type of Container <input checked="" type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____
* Certification must be submitted		If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container 2.5,30,55,250,275 G	
5. Location of Label Directions <input checked="" type="checkbox"/>		6. Manner in Which Label is Affixed to Product <input checked="" type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled	

### Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Madhu Mandava	Title Agent for Repar Corporation	Telephone No. (Include Area Code) (972) 265-7924

### Certification

I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

2. Signature <i>M. Mandava</i>	3. Title Agent for Repar Corporation	6. Date Application Received: (Stamped)  121
4. Typed Name Madhu Mandava	5. Date 04-01-2010	

# **MANDAVA ASSOCIATES, LLC**

**CONSULTANTS IN SCIENCE, TECHNOLOGY AND REGULATORY AFFAIRS**

6860 N Dallas Parkway, Suite 200, Plano, TX 75034

Telephone: (972) 265-7924 / Fax: (972)-265-7942 / E-MAIL: [Madhu@Mandava.com](mailto:Madhu@Mandava.com) / [www.Mandava.com](http://www.Mandava.com)

## **VIA Federal Express**

April 1, 2010

Document Processing Desk (REGFEE)  
Herbicide Branch  
Registration Division (7504P)  
Office of Pesticide Programs  
US Environmental Protection Agency  
Room S-4900, One Potomac Yard  
2777 S. Crystal Drive  
Arlington, VA 22202-4501

ATTN: James Tomkins  
Product Manager 25

SUBJECT: Repar Corporation; EPA Company Number 69361  
Product: Top Dog 41% Plus  
APPLICATION FOR REGISTRATION FOR NEW PRODUCT – "ME-TOO"  
FAST TRACK  
PRIA Category: R300, PRIA FEE: \$1365.00

Dear Mr. Tomkins:

On behalf of Repar Corporation, we are submitting a ME-TOO Registration Application for Top Dog 41% Plus. This registration application qualifies for an expedited review (Fast Track) as it is identical in composition, use, and labeling to [REDACTED]

[REDACTED] Attached is a copy of the receipt for the PRIA registration fee.

Enclosed, please find the following materials in support of the application for registration of Top Dog 41% Plus:

1. Application for Pesticide Registration (EPA Form 8570-1)
2. Formulator's Exemption Statement (EPA Form 8570-27)
3. Confidential Statement of Formula (EPA Form 8570-4)
4. Five (5) copies of Draft Labeling

Please send to my attention the EPA Registration Notice and Stamped Approved Labels at the address listed below.

Mr. James Tompkins (PM25)  
US EPA, Office of Pesticide Programs

Page 2  
April 1, 2010

We look forward to receiving an expedited approval of the subject registration application.

Please contact me if there any inquiries regarding the subject registration applications.

Sincerely yours,

A handwritten signature in black ink, appearing to read "M. Mandava", with a long horizontal flourish extending to the right.

Madhu Mandava  
Agent for Repar Corporation.  
Mandava Associates, LLC  
6860 N. Dallas Parkway  
Suite 200  
Plano, TX 75024  
Phone: 972-265-7924  
Fax: 972-265-7942  
E-Mail: [madhu@mandava.com](mailto:madhu@mandava.com)

Enclosures

Cc: Bhushan Mandava



Form approved. OMB No. 2070-0060, 2070-0057, 2070-0107, 2070-0122, 2070-0164.



United States  
Environmental Protection Agency  
Washington, DC 20460  
**Formulator's Exemption Statement**  
(40 CFR 152.85)

Applicant's Name and Address Repar Corporation 8070 Georgia Avenue, Suite 209 Silver Spring, MD 20910	EPA File Symbol/Registration Number 69361-
	Product Name Top Dog 41% Plus
	Date of Confidential Statement of Formula (EPA Form 8570-4) 04/01/2010

As an authorized representative of the applicant for registration of the product identified above, I certify that:

(1) This product contains the following active ingredient(s):

Glyphosate-Isopropylamine salt (CAS # 38641-94-0)

(2) Of these, each active ingredient listed in paragraph (4) is present solely as the result of the use of that active ingredient in the manufacturing, formulation or repackaging another product which contains that active ingredient which is registered under FIFRA Section 3, is purchased by us from another person and meets the requirements of 40 CFR section 156.50(e)(2) or (3).

(3) Indicate by checking (A) or (B) below which paragraph applies:

☒ (A) An accurate Confidential Statement of Formula (EPA FORM 8570-4) for the above identified product is attached to this statement. That formula statement indicates, by company name, registration number, and product name, the source of the active ingredient(s) listed in paragraph (f).

OR

☐ (B) The Confidential Statement of Formula (CSF)(EPA Form 8570-4) referenced above and on file with the EPA is complete, current, an accurate and contains the information required on the current CSF.

(4) The following active ingredients in this product qualify for the formulator's exemption.

Source		
Active Ingredient	Product Name	Registration Number
Glyphosate-Isopropylamine salt (CAS # 38641-94-0)	[REDACTED]	[REDACTED]
Signature 	Name and Title Madhu Mandava, Agent	Date 04/01/2010

EPA Form 8570-27 (Rev. 06-2004)

Copy 1 - EPA  
Copy 2 - Applicant copy

Apply 2 quarts of this product plus up to 1 pound of 2,4-D per acre at the rosette stage and before maretail exceeds 6 inches in height. Apply using a carrier volume of 15 gallons per acre. Ensure that the specific 2,4-D product being used is labeled for use with the crop being grown. Read and follow label directions for all products used in the tank mixture. Further local restrictions may apply.

#### Vine crops (grapes only)

Apply 2 quarts of this product plus up to 1 pound of 2,4-D per acre at the rosette stage before maretail exceeds 6 inches in height. Apply using a carrier volume of 15 gallons per acre. Ensure that the specific 2,4-D product being used is labeled for use with the crop being grown. A residual herbicide, such as diuron, may provide additional preemergence control. Read and follow label directions for all products used in the tank mixture. Further local restrictions may apply.

#### NON-CROP AREAS

Apply 1 quart of this product per acre in a tank mixture with one or more the following products at the rosette stage before horseweed exceeds 6 inches in height. Ensure that the specific product being used is labeled for use on the target site. Refer to the product labels for approved sites and application rates. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used. Use according to the most restrictive precautionary statements for each product in the mixture.

2,4-D'	Krovar I DF	Overdrive	Velpar DF
Crossbow L	Landmark li MP	Telar DF	
dicamba'	Landmark MP	Transline	
Gallery 75 DF	Milestone	Vanquish	

Tank mixtures with products containing this generic active ingredient may be made provided the specific product is labeled for this use.

#### ATTENTION

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.

#### E. LIMITATIONS ON AERIAL APPLICATION IN CALIFORNIA ONLY, INCLUDING FRESNO COUNTY, CALIFORNIA

##### DIRECTIONS FOR USE

All labeled treatments may be made by aerial equipment where appropriate, provided that the applicator complies with the precautions and restrictions specified on this supplemental labeling and in the product label booklet. Refer to Aerial Equipment in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of the product label for additional information. Refer to the individual use site section of the product label, or to other supplemental labeling or technical Fact Sheets published separately for this product by TOPDOG 41% PLUS, for specific use instructions.

AVOID DRIFT-DO NOT APPLY WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION WHICH FAVORS DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

Use the following guidelines when aerial applications are made near crops or desirable perennial vegetation after bud break and before total leaf drop, and/or near other desirable vegetation or annual crops:

1. Do not apply within 100 feet of all desirable vegetation or crop(s).
2. If wind up to 5 miles per hour is blowing toward desirable vegetation or crop(s), do not apply within 500 feet of the desirable vegetation or crop(s).
3. Winds blowing from 5 to 10 miles per hour toward desirable vegetation or crop(s) may require buffer zones in excess of 500 feet.
4. Do not apply when winds are in excess of 10 miles per hour or when inversion conditions exist.

5. Apply by air only to nonresidential areas.

When applied as directed under the conditions described, this product controls annual and perennial weeds as listed in the label booklet.

When tank mixing this product with 2,4-D, only 2,4-D amine formulations may be used for aerial applications in California. Tank mixtures with 2,4-D amine formulations may be applied by air in California for fallow and reduced tillage systems, and alfalfa and pasture renovation applications only. This product, when tank mixed with dicamba, may not be applied by air in California.

ADDITIONAL INFORMATION FOR FRESNO COUNTY, CALIFORNIA

The following information applies only from February 15 through March 31 within the following boundaries of Fresno County, California:

North:	Fresno County line
South:	Fresno County line
East:	State Highway 99
West:	Fresno County line

Always read and follow the label directions and precautionary statements for all products used in the aerial application.

Observe the following directions to minimize off-site movement during aerial application of this product. Minimization of off-site movement is the responsibility of the grower, Pest Control Advisor and aerial applicator.

Written Recommendations

A written recommendation MUST be submitted by or on behalf of the applicator to the Fresno County Agricultural Commissioner 24 hours prior to the application. This written recommendation MUST state the proximity of surrounding crops, and that conditions of each manufacturer's product label and this label have been satisfied.

Aerial Applicator Training and Equipment

Aerial application of this product is limited to pilots who have successfully completed a Fresno County Agricultural Commissioner and California Department of Pesticide Regulation approved training program for aerial application of herbicides. All aircraft must be inspected, critiqued in flight and certified at a Fresno County Agricultural Commissioner approved fly-in. Test and calibrate spray equipment at intervals sufficient to insure that proper rates of herbicides and adjuvants are being applied during commercial use. Applicator must document such calibrations and testing. Demonstration of performance at Fresno County Agricultural Commissioner approved fly-ins constitutes such documentation, or other written records showing calculations and measurements of flight and spray parameters acceptable to the Fresno County Agricultural Commissioner.

Applications at Night-Do not apply this product by air earlier than 30 minutes prior to sunrise and/or later than 30 minutes after sunset without prior permission from the Fresno County Agricultural Commissioner.

To report known or suspected misuse of this product, call 1-800-332-3111.

For additional information on the proper aerial application of this product, call 916-784-1718.

Note: For aerial application from April 1 through February 14, refer to the other sections of this supplemental label.

F. AERIAL APPLICATION IN ARKANSAS ONLY

DIRECTIONS FOR USE

AVOID DRIFT. DO NOT APPLY INTO STILL AIR WHERE THERE IS A TEMPERATURE INVERSION LAYER LOW ENOUGH FOR FINE SPRAY PARTICLES TO BECOME SUSPENDED AND MOVE OUTSIDE THE TARGET AREA WHEN THE INVERSION LAYER MOVES. DO NOT APPLY WHEN

WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION THAT FAVORS DRIFT. DRIFT IS LIKELY TO CAUSE DAMAGE TO ANY VEGETATION CONTACTED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

Use the recommended rate of this product in 3 to 15 gallons of water per acre.

Use sufficient carrier volume and appropriate equipment set-up to form droplets large enough to avoid drift potential. Coarse droplets in the 300 to 500 (VMD) micron range are recommended.

Applications are typically to be made with the nozzle release point at 8 to 15 feet above the top of the target plants unless a greater height is required for aircraft safety.

The distance of the outermost nozzles on the boom must not exceed 75 percent of the length of the wingspan or rotor. In many cases, reducing this distance to 65 percent of the length of the wingspan or rotor will improve drift control without affecting the swath width.

Nozzles must always discharge backward parallel with the air stream and never discharge downwards more than 45 degrees on fixed wing aircraft or forward of the prevailing airflow on rotary winged aircraft. Avoid the use of nozzles with wide-angle discharge.

Do not apply this product when winds are in excess of 10 mph.

Do not apply when there is a low-level inversion where fine spray particles could be suspended in still air and move outside the target area when the inversion layer moves. These conditions may occur when wind speeds are less than 2 mph.

Use the following guidelines when applications are made near crops or other desirable vegetation:

1. Do not apply within 100 feet of any desirable vegetation or crops.
2. If wind up to 5 mph is blowing toward desirable vegetation or crops, do not apply within 500 feet upwind of the desirable vegetation or crops.
3. Winds blowing from 5 to 10 mph toward desirable vegetation or crops will likely require buffer zones in excess of 500 feet.

## G. CONTROL OF BARNYARDGRASS (ECHINOCHLOA CRUS-GALLI) IN RICE USING RENOVATION TREATMENT IN CALIFORNIA ONLY

### DIRECTIONS FOR USE

#### Renovation Treatment

USE INSTRUCTIONS: This product may be applied as a renovation treatment in rice crops to control barnyardgrass infestations using ground broadcast spray or hand-held equipment. Renovation is defined as herbicide treatment that will produce crop and weed destruction in an entire field or contiguous area treated within a field. Follow the application methods and treatment rates in the label booklet for TOPDOG 41% PLUS herbicide.

PRECAUTIONS, RESTRICTIONS: Crop sprayed in treated area will be killed. Take care not to spray or allow spray to drift outside the target area in order to avoid unwanted crop destruction. The rice straw and stubble from the treated area, including a 25-foot buffer zone on all sides, shall not be used for grazing, animal bedding or any feed purposes.

Aerial application is not permitted for rice renovation using this supplemental label.

## H. USE IN ROUNDUP READY® ALFALFA SEED PRODUCTION

### DIRECTIONS FOR USE

This product will control many troublesome emerged weeds with over-the-top (in-crop) application in Roundup Ready alfalfa grown for seed. In-crop application may be made from emergence through the late vegetative stage, and spot treatment may be made from early bud stage through seed harvest.

For ground application using broadcast equipment, apply this product in 3 to 40 gallons of spray solution per acre. Carefully select proper nozzle and spray pressure to avoid spraying a fine mist. For best results

with ground application equipment, use flat fan nozzles. Check for even distribution of spray droplets.

For aerial application, apply the appropriate rate of this product in 3 to 15 gallons of spray solution per acre.

DO NOT EXCEED 2 QUARTS OF THIS PRODUCT PER ACRE WHEN MAKING APPLICATION BY AIR. FOR AERIAL APPLICATION IN CALIFORNIA, REFER TO THE FEDERAL SUPPLEMENTAL LABEL FOR AERIAL APPLICATION OF THIS PRODUCT IN THAT STATE. AVOID DRIFT. USE EXTREME CARE WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS THAT DO NOT CONTAIN A GLYPHOSATE TOLERANCE GENE. Do not apply during low-level inversion conditions, when winds are gusty or under any other conditions that favor drift. Drift may cause damage to any vegetation contacted to which treatment is not intended. To prevent injury to adjacent desirable vegetation, appropriate buffer zones must be maintained.

See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of the label booklet for procedures to avoid spray drift that may cause injury to any vegetation not intended for treatment.

**Sprayer Preparation:** It is important that sprayer and mixing equipment be clean and free of pesticide residue before using to apply this product to Roundup Ready alfalfa. Follow the cleaning procedures specified on the label of the last product(s) used. Alfalfa can be very sensitive to many herbicides at extremely low concentrations and care must be taken to thoroughly clean all equipment prior to use.

**TYPES OF APPLICATION:** Preplant, At-planting, Preemergence, Postemergence, Spot Treatment, Postharvest of seed

**USE INSTRUCTIONS:** For specific rates of application and instructions for control of various annual and perennial weeds, refer to the "ANNUAL WEEDS RATE SECTION" and the "PERENNIAL WEEDS RATE SECTION" in the TOPDOG 41% PLUS label booklet. Some weeds with multiple germination times or suppressed (stunted) weeds may require a second application of this product after some re-growth has occurred for complete control.

This product will also suppress or control the parasitic weed, Dodder (*Cuscuta* spp.) in Roundup Ready alfalfa seed production fields. Repeat applications may be necessary for complete control.

Tank mixtures with other herbicides, insecticides, or fungicides may result in crop injury or reduced weed control. Buyer and all users are responsible for any and all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not expressly identified on this labeling, or in separate supplemental labeling or Fact Sheets for this product.

Maximum Application Rates	
Combined total per year for all applications	8 quarts per acre
Total Preplant, At-planting and Preemergence Applications	2 quarts per acre
Total in-crop application rate from emergence through the late vegetative stage*	6 quarts per acre

#### Postemergence (In-crop)

**USE INSTRUCTIONS:** Broadcast application of up to 2 quarts of this product per acre may be made over the top of Roundup Ready alfalfa from emergence through the late vegetative stage. Do not make a broadcast application of this product between the initiation of alfalfa budding and the harvest of seed. Make sequential applications of this product at least 7 days apart.

Due to the biology and breeding constraints of alfalfa, up to 10% of the seedlings are susceptible and will not survive or thrive after the first application of this product. Make a single application of at least 1 quart of this product per acre at or before the 3 to 4 trifoliate growth stage to eliminate the effects of stand gaps created by the loss of non-Roundup Ready plants.

### Spot Treatment

USE INSTRUCTIONS: For late emerging weeds, this product may be applied as a spot treatment in Roundup Ready alfalfa grown for seed during the early bud stage through seed harvest. Application made during this stage may result in reduced seed yield and quality, and are the responsibility of the grower. Make application on a spray-to-wet basis; do not spray to the point of runoff. If a spot treatment is made after the late vegetative stage, harvested seed must not be used for alfalfa sprout production.

### Post-Harvest

USE INSTRUCTIONS: Following harvest of Roundup Ready alfalfa seed, the stand may be managed for forage and hay production. Refer to the Roundup Ready alfalfa section of the TOPDOG 41% PLUS label booklet for use instructions in Roundup Ready alfalfa forage and hay production.

PRECAUTIONS, RESTRICTIONS: Do not make over-the-top (in-crop) broadcast applications of this product between the initiation of alfalfa budding and the harvest of Roundup Ready alfalfa seed. The use of harvested Roundup Ready alfalfa seed is not suitable for production of alfalfa sprouts. There are no rotational crop restrictions following application of this product. Any crop listed in the label booklet for TOPDOG 41% PLUS may be planted at any time; all other crops may be planted 30 days after application of this product.

## 1. APPLICATION TO ROUNDUP READY FLEX COTTON IN THE STATE OF ARIZONA ONLY

### DIRECTIONS FOR USE

The use of the over-the-top applications described in this label on other than Roundup Ready Flex cotton will cause crop injury and reduced yields. Drift of this product from applications made to Roundup Ready Flex cotton onto adjacent fields of post 4-leaf (node) Roundup Ready cotton may cause extensive injury including boll loss, delayed maturity and/or yield loss.

NOTE: The instructions provided in this supplemental label are specific to, and are to be only used with varieties designated as Roundup Ready Flex cotton. DO NOT combine the instructions in this supplemental label with those in the "Roundup Ready Cotton" or "Roundup Ready Flex Cotton" sections found in the label booklet for TOPDOG 41% PLUS, or with any other Roundup Ready cotton or Roundup Ready Flex cotton instructions on labeling for this or other glyphosate-containing product. See "Maximum Use Rate" in the "PRODUCT INFORMATION" section of the label booklet for TOPDOG 41% PLUS for additional information.

ROUNDUP READY FLEX COTTON VARIETIES MUST BE PURCHASED FROM AN AUTHORIZED LICENSED SEED SUPPLIER. THE DESIGNATION, "ROUNDUP READY", INDICATES THE COTTON VARIETY CONTAINS A PATENTED PROPRIETARY TRAIT.

TYPES OF APPLICATION: Preplant, At-Planting, Preemergence, Postemergence (In-crop), Preharvest

USE INSTRUCTIONS: For specific rates of application and instructions, refer to the "ANNUAL WEED RATE SECTION" and "PERENNIAL WEED RATE SECTION" in the TOPDOG 41% PLUS label booklet. Refer to the following table for maximum application rates of this product with Roundup Ready Flex cotton.

1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10

#### Maximum Application Rates

Combined total per year for all applications	8 quarts per acre
Preplant, At-Planting, Preemergence applications	5 quarts per acre
Total of all in-crop applications from ground cracking to 60 percent open bolls	6 quarts per acre
Maximum allowed from 60 percent open bolls to 7 days prior to harvest	2 quarts per acre

#### Preplant, At-Planting, Preemergence

USE INSTRUCTIONS: This product may be applied before, during or after planting Roundup Ready Flex cotton.

#### Postemergence (In-Crop)

USE INSTRUCTIONS: When applied in accordance with this label, TOPDOG 41% PLUS will control annual grasses and broadleaf weeds listed on the product label in Roundup Ready Flex cotton. To maximize yield potential, eliminate competing weeds early. Many perennial weeds will be controlled or suppressed with one or more applications of this product. Use an initial application of 1 quart per acre to control or suppress 1 to 3 inch tall annual grass and broadleaf weeds. This product may be applied using ground application equipment at rates up to 2 quarts per acre per application postemergence to Roundup Ready Flex cotton. In addition to broadcast application, post-directed equipment may be used to achieve weed coverage.

PRECAUTIONS, RESTRICTIONS: The maximum rate for any single in-crop application of this product is 2 quarts per acre made using ground application equipment. In-crop application rates above 1 quart per acre made alone, or with the addition of other crop chemical products containing surfactant, may cause a crop response, including leaf speckling or leaf necrosis. Do not exceed a maximum rate of 3 pints of this product per acre when making application by air. Between layby and 60 percent open bolls, the maximum combined total rate of this product that may be applied is 2 quarts per acre. The maximum combined total of all applications made from crop emergence to 60 percent open bolls must not exceed 6 quarts per acre.

#### Preharvest

USE INSTRUCTIONS: This product may be applied for preharvest annual and perennial weed control at up to 2 quarts per acre prior to harvest of Roundup Ready Flex cotton after 60 percent boll crack.

NOTE: This product will not enhance the performance of harvest aids when applied to Roundup Ready Flex cotton.

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 7 days between application and harvest of Roundup Ready Flex cotton.

ATTENTION: USE OF THIS PRODUCT IN ACCORDANCE WITH LABEL DIRECTIONS IS EXPECTED TO RESULT IN NORMAL GROWTH OF ROUNDUP READY FLEX COTTON, HOWEVER, DUE TO THE SENSITIVITY OF COTTON FRUITING TO VARIOUS ENVIRONMENTAL CONDITIONS, AGRONOMIC PRACTICES AND OTHER FACTORS, IT IS IMPOSSIBLE TO ELIMINATE ALL RISKS ASSOCIATED WITH THIS PRODUCT, EVEN WHEN APPLICATION IS MADE IN CONFORMANCE WITH THE LABEL DIRECTIONS. IN SOME CASES, THESE FACTORS CAN RESULT IN BOLL LOSS, DELAYED MATURITY AND/OR YIELD LOSS.

## J. BROADCAST APPLICATION IN CHRISTMAS TREE PLANTATIONS

### DIRECTIONS FOR USE

NOTE: IF IMPROPERLY APPLIED, THIS PRODUCT HAS THE POTENTIAL TO CAUSE SEVERE CHRISTMAS TREE INJURY. FOLLOW ALL LABEL DIRECTIONS.

This product may be applied as a broadcast spray over established Christmas trees. Ensure that adequate buffers are maintained to prevent drift onto nearby desirable crops or vegetation. Read the entire "APPLICATION EQUIPMENT AND TECHNIQUES" section of the TOPDOG 41% PLUS label booklet for additional application precautions.

This application is approved for the following Christmas tree species:

Douglas fir (*Pseudotsuga menziesii*)

Fir species (*Abies* spp.)

Spruce species (*Picea* spp.)

Application may be made only after trees have completed at least a full growing season since planting or transplanting and 1 full year prior to tree harvest.

Application may only be made in the fall after the formation of final conifer resting buds. Final resting buds must be fully hardened and in the dormant stage. Application made at any other time may result in unacceptable Christmas tree injury.

Avoid spray pattern overlap, as injury may occur.

Apply 1 quart of this product per acre in 5 to 30 gallons of water per acre.

NOTE: DO NOT ADD SURFACTANTS, ADDITIVES CONTAINING SURFACTANTS, OR ANY OTHER ADDITIVES TO THIS PRODUCT AS SEVERE CHRISTMAS TREE INJURY MAY RESULT.

This product may be used at rates from 1 to 2 quarts per acre in some areas. Consult your local REPAR CORPORATION representative or TOPDOG 41% PLUS supplier for specific use instructions if you require rates greater than 1 quart per acre.

Drift control additives may increase Christmas tree injury.

Do not tank-mix this product with other herbicides as severe Christmas tree injury may result.

## K. SELECTIVE WEED CONTROL ON TOPDOG 41% PLUS-TOLERANT PURE GOLD® TALL FESCUE AND AURORA GOLD® FINE FESCUE SELECTIONS

### DIRECTIONS FOR USE

Use this product on TOPDOG 41% PLUS-tolerant tall and fine fescue grown for seed production only.

This product may be applied at rates of 4 to 16 fluid ounces per acre as a postemergence spray on TOPDOG 41% PLUS-tolerant tall fescue selections. See the label booklet for application instructions, rates, weeds controlled and appropriate growth stage of weeds.

When applied postemergence, this product will control or suppress the following weeds: annual bluegrass, mustards, downy brome, cheatgrass, chickweed, pennycress, fleabane, shepherd's-purse, sowthistle, wild oat, dandelion, quackgrass, and Canada thistle. See the TOPDOG 41% PLUS label booklet for a complete list of weeds controlled or suppressed.

The application rate for this use will limit the level of control of certain species of weeds.

Some crop discoloration and yellowing may occur at higher rates of application with TOPDOG 41% PLUS-tolerant tall and fine fescue selections. Reduction in stand of these selections may occur under stress conditions.

Timing of Application



Application can be made 6 weeks after germination and to established crops after growth resumes in the fall until onset of dormancy, and in the spring after dormancy break until 60 days prior to harvest.

Avoid spraying during or within two weeks after periods when air temperatures fall below 25°F.

Remove domestic livestock from the seed production field prior to application. Wait 60 days after making this application before grazing or harvesting the treated area.

NOTE: Only two applications per crop growth cycle may be made to any one site. If two applications are required, only one fall and one spring application may be made during one 12 month cycle.

## L TANK MIXTURES FOR TOUGH TO CONTROL WEEDS

### DIRECTIONS FOR USE

Use in areas including airports, apartment complexes, Christmas tree farms, commercial sites, ditch banks, dry ditches, dry canals, fencerows, golf courses, greenhouses, industrial sites, landscape areas, lumber yards, manufacturing sites, municipal sites, natural areas, office complexes, ornamentals, parks, parking areas, pastures, petroleum tank farms and pumping installations, plant nurseries, public areas, railroads, rangeland, recreational areas, residential areas, rights-of-way, roadsides, schools, sod or turf seed farms, sports complexes, storage areas, substations, turfgrass areas, utility sites, warehouse areas, and wildlife management areas.

Do not allow spray mixtures of this herbicide to mist, drip, drift or splash onto desirable vegetation since injury or destruction may occur. Do not apply when wind or other conditions favor drift.

See the "WEEDS CONTROLLED" section of the TOPDOG 41% PLUS label booklet for specific rates. For tough to control species, where dense stands occur, or where conditions for control are not ideal, 5 to 10 quarts per acre of this product can be used for improved results.

### TANK MIXTURES

This product provides control of the emerged weeds listed in the label booklet. When applied as a tank mixture, the following herbicides will provide preemergence and/or postemergence control of the weeds listed in the individual product labels.

The following list of products may be tank mixed with this product, provided that the specific product is labeled for application to the target site. Any labeled rate of this product may be used in a tank mixture with these products. Refer to these product labels for approved sites and application rates.

2,4-D'	Hyvar X	Plateau DG
Arsenal	Hyvar X-L	Poast
atrazine'	Krenite	Quicksilver
Barricade 65WG	Krovar 1 DF	Ronstar 50 WSP
Crossbow L	Landmark II MP	Sahara DG
dicamba'	Landmark MP	simazine'
diuron'	Landmark XP	Spike 80DF
Endurance	Milestone	Surflan AS
Escort	Oust XP	Surflan WDG
Escort XP	Outrider	Telar DF
Gallery 75 DF	Overdrive	Transline
Garlon 3A	pendimethalin'	Velpar DF
Garlon 4	Plateau	Velpar L
Goal 2XL		

Tank mixtures with products containing this generic active ingredient may be made provided the specific product is labeled for this use.

Refer to the individual product labels for specific sites, rates, carrier volumes and precautionary statements.

Read and carefully observe the label claims, cautionary statements, use rates and all other information on the labels of all products used in these tank mixtures. Use according to the most restrictive label directions for each product in the mixture.

Maintain good agitation at all times during the mixing process. Ensure that the tank-mix products are well mixed with the spray solution before adding this product.

Mix only the quantity of spray solution that can be used during the same day. Tank mixtures allowed to stand overnight may result in reduced weed control.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to re-suspend the mixture before spraying is resumed.

When used in combination as directed by REPAR CORPORATION, the liability of REPAR CORPORATION shall in no manner extend to any damage, loss or injury not solely and directly caused by the inclusion of the REPAR CORPORATION product in such combination use.

Outrider is a trademark of Monsanto Technology LLC. All other trademarks are the property of their respective owners.

## M. GROUND AND AERIAL APPLICATION TO BRUSH AND CHAPARRAL IN CALIFORNIA ONLY

### DIRECTIONS FOR USE

Repeat treatments may be necessary to control weeds regenerating from underground parts or seeds.

Nonionic surfactants that are labeled for use with herbicides may be used to improve wetting of foliage. Do not reduce rates of TOPDOG 41% PLUS when adding surfactant. Read and carefully observe surfactant rates, cautionary statements, and other information appearing on the surfactant label.

**TIMING OF APPLICATION:** Apply this product as a broadcast spray when plants are actively growing for partial control of undesirable vegetation listed on this label. Best results are obtained when application is made in the spring to early summer when brush species are at a high moisture content and flowering.

This product may be used as directed for:

- Aid to burning treatment to establish and maintain fuel breaks
- Establishing fire perimeters and black lines
- Aid to prescribed burning
- Along fire roads and rights-of-way

**USE INSTRUCTIONS:** Apply 2 quarts of this product per acre for partial control of the following emerged brush, and chaparral species:

Ceanothus	Sage
Ceanothus spp.	Salvia spp.
Chamise	Scrub oak
Adenostoma fasciculatum	Quercus dumosa

Make ground application in 3 to 40 gallons of total spray solution per acre.

Make aerial application (helicopter only) in 3 to 15 gallons of total spray solution per acre.

Avoid direct application to any body of water.

**AVOID DRIFT-DO NOT APPLY WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION WHICH FAVORS DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.**

For aerial application of this product, please see the supplemental label directions for aerial application in California.

## N. CONIFER RELEASE

### DIRECTIONS FOR USE

#### AERIAL APPLICATION

This product may be applied using aerial spray equipment for conifer release treatments.

DO NOT APPLY THIS PRODUCT BY AIR TO RIGHTS-OF-WAY SITES IN THE STATE OF CALIFORNIA.

#### CONIFER RELEASE

For release, apply only where conifers have been established for more than one year. Do not disturb vegetation prior to treatment or until visual symptoms appear after treatment. Symptoms of treatment are slow to appear, especially in woody species treated in late fall. Injury may occur to conifers treated for release, especially where spray patterns overlap or the higher rates are applied or when application is made during periods of active conifer growth. Do not use additional surfactant with conifer release applications.

Application must be made after formation of final conifer resting buds in the fall or prior to initial bud swelling in spring. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Use the following rates for conifer release to control or partially control the weeds listed in the "WEEDS CONTROLLED" section of the label booklet for TOPDOG 41% PLUS herbicide.

For release of the following conifer species:

Douglas Fir	Pines*
<i>Pseudotsuga menziesii</i>	<i>Pinus</i> spp.
Fir	Spruce
<i>Abies</i> spp.	<i>Picea</i> spp.
Hemlock	
<i>Tsuga</i> spp.	

\*Includes all species except eastern white pine, loblolly pine and slash pine.

Apply 1.5 to 2 quarts of this product per acre except in Washington and Oregon, west of the crest of the Cascade Mountains. For spring treatment west of the crest of the Cascade Mountains, apply 1 quart of this product per acre before conifer bud swell for control of annual weeds. For fall treatment in Washington and Oregon, west of the crest of the Cascade Mountains, apply 1 to 1.5 quarts of this product per acre before any major leaf drop of deciduous species. For release of western hemlock apply 1 quart of this product per acre. For release of the following conifer species:

Loblolly pine	Slash pine
<i>Pinus taeda</i>	<i>Pinus elliottii</i>
Eastern white pine	
<i>Pinus strobus</i>	

Late Season Application-Apply 1.5 to 2 quarts of this product in a minimum of 5 gallons of spray solution per acre during early autumn. Application made prior to September 1 or when conditions are conducive to rapid growth of conifers will result in potential for increased injury in the form of tip and/or needle burn. Injury may decrease with later application. Some autumn colors are acceptable at time of application. Apply prior to frost or leaf drop of undesirable plants. Application made according to label direction will release loblolly pine, eastern white pine and slash pine by reducing competition from the following species:

Ash  
Fraxinus spp.  
Cherry, black  
Prunus serotina  
Cherry, pin  
Prunus pensylvanica  
Elm  
Ulmus spp.  
Hawthorn  
Crataegus spp.  
Locust, black  
Robina pseudoacacia Maple, red  
Acer rubra  
Oak, black  
Quercus velutina  
Oak, post  
Quercus stellata

Oak, southern red  
Quercus falcate  
Oak, white  
Quercus alba  
Persimmon  
Diospyros spp.  
Poplar, yellow  
Liriodendron tulipifera  
Sassafras  
Sassafras albidum Sourwood  
Oxydendrum arboreum  
Sumac, poison  
Rhus vernix  
Sumac, smooth  
Rhus glabra  
Sumac, winged  
Rhus copallina  
Sweetgum  
Liquidambar styraciflu

Apply only to those sites where woody brush and trees listed on this label constitute the majority of the undesirable species.

#### TOPDOG 41% PLUS HERBICIDE PLUS OUST TANK MIXTURE FOR CONIFER RELEASE FROM HERBACEOUS WEEDS

To release loblolly pines from herbaceous weeds, tank mixture of this product with Oust will provide control of annual weeds listed in the of the label booklet for TOPDOG 41% PLUS herbicide and the Oust label, and partial control of the perennial weeds listed below.

Apply 16 to 24 fluid ounces of [INSERT. BRAND NAME] herbicide with 2 to 4 ounces of Oust in 10 to 30 gallons of spray solution per acre. Make application to actively growing weeds as a broadcast spray over the top of the young loblolly pines.

This product plus Oust tank mixtures may not be applied by air in California.

This tank mixture may be applied using aerial equipment. When applying by air, apply the appropriate rate in 5 to 15 gallons of spray solution per acre.

For control of annual weeds below 12 inches in height (or runner length on annual vines), use the low rates of both products. Use the higher rates of both products when annual weeds are in more advanced stages of growth and approaching flower or seed formation.

Use the higher rates of both products for partial control of the following perennial weeds. Use the lower rates for suppression of growth.

Bahiagrass	Johnsongrass**
Paspalum notatum	Sorghum halepense
Broomsedge	Poorjoe**
Andropogon virginicus	Diodia teres
Dock, curly	Trumpet creeper*
Rumex crispus	Campsis radicans
Dogfennel	Vaseygrass
Eupatorium capilliflorum	Paspalum urvillei
Fescue, tall	Vervain, blue
Festuca arundinacea	Verbena hastata

\*Suppression at the higher rates only

\*\*Control at the higher rates

Pine damage may occur or can be accentuated if treatment takes place when young trees are under stress from drought, flood water, insects or disease.

Read and observe the cautionary statements and all other information appearing on the labels of all herbicides used.

## 0. CONTROL AND MANAGEMENT OF GLYPHOSATE-RESISTANT AMARANTHUS spp. IN CORN, COTTON, AND SOYBEAN

### DIRECTIONS FOR USE

This product may be tank-mixed with other herbicides for application in accordance with label directions. Follow all precautions and use instructions contained within each product's labeling, and use in accordance with the most restrictive label limitations. Some products have the potential to cause crop injury under certain conditions, at certain crop growth stages, and/or other circumstances. Read all labels for products used in tank mixtures to determine the potential for injury prior to use. Always predetermine the compatibility of all products used in the tank mixture by mixing small proportional quantities in advance. A tank mixture of this product with other herbicides may cause incompatibility, antagonism, or a reduction in product efficacy. REPAR CORPORATION has not tested all tank-mix product formulations for compatibility, performance, and crop safety.

#### Management of Glyphosate-Resistant Amaranthus spp.

If a naturally occurring glyphosate-resistant biotype of an Amaranthus species is present, this product can be tank-mixed or applied sequentially with an appropriately labeled herbicide with a different mode of action to achieve control. Cultural and mechanical control practices (e.g. crop rotation or tillage) may also be used as appropriate.

Not all herbicides are registered in each state or for all sites or crops for the management of Amaranthus spp. When TOPDOG 41% PLUS is used in combination with other herbicides, refer to each product's label and observe all precautions and limitations on the label.

Tillage or a burndown herbicide application is encouraged prior to planting.

### CORN

#### Preplant, At-Planting, Preemergence to Corn

Apply TOPDOG 41% PLUS, to control emerged weeds, in a tank-mix with a preemergence residual herbicide such as Harness Xtra, Harness Xtra 5.6L, Degree Xtra or another residual herbicide for the control of Amaranthus spp.

#### Postemergence in Corn Hybrids with Roundup Ready 2 Technology (in-crop)

Corn hybrids with Roundup Ready 2 Technology include Roundup Ready Corn 2 and seed products displaying the Roundup Ready 2 Technology logo.

#### Preemergence to glyphosate-resistant Amaranthus spp.

Apply TOPDOG 41% PLUS, to control emerged weeds, in a tank-mix with a preemergence residual herbicide product such as Harness Xtra, Harness Xtra 5.6L, Degree Xtra or another residual herbicide for the control of Amaranthus spp.

#### Postemergence to glyphosate-resistant Amaranthus spp.

Apply TOPDOG 41% PLUS in a tank-mix with other herbicides such as 2,4-D or dicamba (Clarity, Banvel, or Distinct), to control emerged weeds, and a residual herbicide product such as Harness Xtra, Harness Xtra 5.6L, Degree Xtra for continued control of Amaranthus spp. Observe all maximum annual application rate and timing restrictions.

### COTTON

#### Preplant, At-Planting, Preemergence to Cotton

Apply TOPDOG 41% PLUS, to control emerged weeds, in a tank-mix with a preemergence soil residual herbicide product labeled for control of *Amaranthus* spp., such as pendimethalin (Prowl H20) and/or fluometuron (Cotoran).

Postemergence (In-crop) in Roundup Ready Flex Cotton and Roundup Ready Cotton

Preemergence to glyphosate-resistant *Amaranthus* spp.

Apply TOPDOG 41% PLUS, to control emerged weeds, in a tank-mix with metolachlor prior to the 4-leaf stage in cotton for the control of *Amaranthus* spp.

Preemergence to glyphosate-resistant *Amaranthus* spp. at layby

Apply TOPDOG 41% PLUS, to control emerged weeds, in a tank-mix with a residual herbicide product such as diuron (Direx) or flumioxazin (Valor) post-directed to control *Amaranthus* spp.

Postemergence to glyphosate-resistant *Amaranthus*

Apply TOPDOG 41% PLUS, to control emerged weeds, in a tank-mix of MSMA and diuron (Direx) or flumioxazin (Valor), to control emerged *Amaranthus* spp.

## SOYBEAN

Preplant, At-Planting, Preemergence to Soybean

Preemergence to glyphosate-resistant *Amaranthus* spp.

Apply TOPDOG 41% PLUS, to control emerged weeds, in a tank-mix with a preemergence residual herbicide product such as alachlor (INTRRO) or another residual herbicide for control of *Amaranthus* spp. For preplant application, 2,4-D may be added to the tank-mix to help control emerged broadleaf weeds. Follow label instructions regarding application timing relative to soybean planting.

Postemergence to glyphosate-resistant *Amaranthus* spp.

Apply TOPDOG 41% PLUS, to control emerged weeds, in a tank-mix with lactofen (Cobra) or fomesafen (Flexstar) to control emerged *Amaranthus* spp.

## P. CONTROL AND MANAGEMENT OF GLYPHOSATE-RESISTANT RYEGRASS

### DIRECTIONS FOR USE

This product may be tank-mixed with other herbicides for application in accordance with label directions. Follow all precautions and use instructions contained within each product's labeling in accordance with the most restrictive label limitations. Some products have the potential to cause crop injury under certain conditions, at certain crop growth stages and/or under other circumstances. Read all labels for products used in tank mixtures to determine the potential for crop injury prior to use. Always predetermine the compatibility of all products used in the tank mixture by mixing small proportional quantities in advance. A tank mixture of this product with other herbicides may cause incompatibility, antagonism, or a reduction in product efficacy. REPAR CORPORATION has not tested all tank-mix product formulations for compatibility, performance, and crop safety.

Not all herbicides are registered in each state or for all use-sites (orchards, non-crop areas, or ditch banks) or crops for the management of ryegrass. When TOPDOG 41% PLUS is used in combination with other herbicides, refer to each product label and observe all precautions and limitations.

Preemergence to Glyphosate-Resistant Ryegrass

Apply TOPDOG 41% PLUS, to control other emerged weeds, in a tank-mix with a preemergence herbicide product labeled for control of ryegrass.

Preemergence and Postemergence to Glyphosate-Resistant Ryegrass

Apply TOPDOG 41% PLUS, to control other emerged weeds, in a tank-mix with a residual preemergence herbicide product and a postemergence herbicide product (other than glyphosate)

labeled for control of ryegrass. Make application before ryegrass exceeds 4 inches in height.

#### Postemergence to Glyphosate-Resistant Ryegrass

Apply TOPDOG 41% PLUS to control other emerged weeds, in a tank-mix with another postemergence herbicide product labeled for control of ryegrass. Make application before ryegrass exceeds 4 inches in height.

### Q. CONTROL AND MANAGEMENT OF GLYPHOSATE-RESISTANT COMMON AND GIANT RAGWEED (*Ambrosia* spp.) IN CORN, COTTON AND SOYBEAN

#### DIRECTIONS FOR USE

##### Management of Glyphosate-Resistant Ragweed Species

To control a naturally occurring glyphosate-resistant biotype of common or giant ragweed, this product can be tank-mixed or applied sequentially with an appropriately labeled herbicide with a different mode of action. Cultural and mechanical control practices (e.g. crop rotation or tillage) may also be used as appropriate.

Not all herbicides are labeled for management of ragweed species in all states or for all sites and crops. When this product is used in combination with other herbicides, refer to each product's label and observe all precautions and limitations on the label.

Tillage or a burndown herbicide application is encouraged prior to planting.

#### CORN

##### Preplant, At-Planting, Preemergence to Corn

Apply this product, to control emerged weeds, in a tank-mix with a preemergence residual herbicide containing atrazine, such as Harness Xtra®, Harness Xtra 5.6L, Degree Xtra® or another residual herbicide labeled for control of ragweed species prior to the emergence of corn.

##### Postemergence in Corn Hybrids with Roundup Ready 2 Technology (In-crop)

##### Preemergence to glyphosate-resistant ragweed species

Apply this product, to control emerged weeds, in a tank-mix with a preemergence residual herbicide containing atrazine, such as Harness Xtra, Harness Xtra 5.6L, Degree Xtra or another residual herbicide labeled for the control of ragweed species.

##### Postemergence to glyphosate-resistant ragweed species

Apply this product in a tank-mix with another herbicide, such as 2,4-D or dicamba (Clarity, Banvel or Distinct) to control emerged weeds, and a residual herbicide such as Harness Xtra, Harness Xtra 5.6L, or Degree Xtra for continued control of ragweed species. Observe maximum annual application rates and timing restrictions for these products.

#### COTTON

##### Preplant, At-Planting, Preemergence to Cotton

##### Preemergence to glyphosate-resistant common ragweed species

For burndown application, apply this product, to control emerged weeds, in a tank-mix with a preemergence broadleaf herbicide such as Clarity or 2,4-D. For preplant applications, 2,4-D may be added to the tank-mix to help control emerged broadleaf weeds. Follow label directions regarding application timing relative to planting cotton. For applications after planting but prior to the emergence of cotton, apply this product, to control, emerged weeds, in a tank-mix with the preemergence residual herbicide Cotoran for continued control of common ragweed.

#### SOYBEAN

##### Preplant, At-Planting, Preemergence to Soybean

##### Preemergence to glyphosate-resistant ragweed species

Apply this product, to control emerged weeds, in a tank-mix with a preemergence residual herbicide

such as cloransulam (FirstRate) where ALS resistance is not an issue. For preplant application, 2,4-D may be added to the tank-mix to help control emerged broadleaf weeds. Follow label directions regarding timing relative to planting soybean.

Postemergence to glyphosate-resistant ragweed species

Apply this product, to control emerged weeds, in a tank-mix with cloransulam (FirstRate), lactofen (Cobra) or fomesafen (Flexstar) to control emerged ragweed species.

**PRECAUTIONS, RESTRICTIONS:** Always read and follow all label directions for all products in the tank mixture. Some products have the potential to cause crop injury under certain conditions, growth stage and/or other circumstances. Read the label of all products used in the tank-mix prior to use to determine the potential for crop injury. Tank mixtures of this product with other herbicides may cause incompatibility, antagonism, or a reduction in product efficacy. REPAR CORPORATION has not tested all product formulations for compatibility, performance, and crop safety.

Not all herbicides are registered in every state or for all sites and crops for the management of ragweed species. When a tank-mix with a generic active ingredient, such as 2,4-D or atrazine is listed on this label, the user is responsible for ensuring that the specific application being made is included on the label of the product being used in the mixture.

Always predetermine the compatibility of all tank-mix products together in the carrier by mixing small proportional quantities prior to mixing in the spray tank.

Refer to individual product labels for precautions and restrictions; use according to the most restrictive precautionary statements for each product in the tank-mix.

## R. CONTROL AND MANAGEMENT OF GLYPHOSATE-RESISTANT JOHNSONGRASS IN CORN, COTTON AND SOYBEAN

### DIRECTIONS FOR USE

A naturally occurring glyphosate-resistant biotype of johnsongrass can be controlled in corn, cotton and soybean cropping systems by using this product along with an herbicide with a different mode of action labeled for preemergence and/or postemergence control of johnsongrass in combination with appropriate cultural weed control practices (e.g. crop rotation). Application of an herbicide with a different mode of action can be made either in a single tank-mix application with this product or in sequential applications.

#### CORN

##### Preplant, At-Planting, Preemergence to Corn

Control emerged weeds with a burndown application prior to planting or the emergence of corn. For burndown, apply this product before, during or after planting, but prior to crop emergence, to control a broad spectrum of emerged weeds, along with Harness Xtra, Harness Xtra 5.6L or Degree Xtra for additional weed control and suppression of emerged johnsongrass.

##### Postemergence in Corn Hybrids with Roundup Ready 2 Technology (in-crop)

Apply this product to control emerged weeds and in a tank-mix with Accent (nicosulfuron), Equip (foramsulfuron and iodosulfuron), or Option (foramsulfuron) for additional weed control and suppression of emerged johnsongrass.

#### COTTON

##### Preplant, At-Planting, Preemergence to Cotton

Control emerged weeds with a burndown application prior to planting or the emergence of cotton. For burndown, this product can be applied before, during or after planting cotton, but prior to crop emergence, to control a broad spectrum of emerged weeds. For additional control or suppression of rhizome johnsongrass prior to planting cotton, apply this product along with a product containing pendimethalin or trifluralin. For additional control of emerged johnsongrass, apply this product in a tank-mix with SelectMAX (clethodim), Assure II (quizalofop) or Poast Plus (sethoxydim).

##### Postemergence to Roundup Ready Flex Cotton and Roundup Cotton (In-crop)



Apply this product to control emerged weeds and in a tank-mix with SelectMAX (clethodim), Assure II (quizalofop) or Poast Plus (sethoxydim) for the suppression of emerged johnsongrass.

#### SOYBEAN

##### Preplant, At-Planting, Preemergence to Soybean

Control emerged weeds with a burndown application prior to planting or the emergence of soybean. For burndown, apply this product before, during or after planting, but prior to crop emergence, to control a broad spectrum of emerged weeds. For control or suppression of rhizome johnsongrass, apply this product in a tank-mix with a product containing one of the following active ingredients: alachlor, metolachlor, pendimethalin, or trifluralin. For suppression of emerged johnsongrass, apply this product in a tank-mix with SelectMAX (clethodim), Assure II (quizalofop) or Poast Plus (sethoxydim).

Postemergence to Roundup Ready Soybean and Roundup Ready 2 Yield Soybean (in-crop). Apply this product to control emerged weeds and in a tank-mix with SelectMAX (clethodim), Assure II (quizalofop) or Poast Plus (sethoxydim) for the suppression of emerged johnsongrass.

**PRECAUTIONS/RESTRICTIONS:** Always read and follow all label directions for all products in the tank mixture. Some products have the potential to cause crop injury under certain conditions, growth stage and/or other circumstances. Read the label of all products used in the tank-mix prior to use to determine the potential for crop injury. Tank mixtures of this product with other herbicides may cause incompatibility, antagonism, or a reduction in product efficacy. REPAR CORPORATION has not tested all product formulations for compatibility, performance, and crop safety.

Not all herbicides are registered in every state or for all sites and crops for the management of johnsongrass species. When a tank-mix with a generic active ingredient, such as alachlor, metolachlor, pendimethalin or trifluralin is listed on this label, the user is responsible for ensuring that the specific application being made is included on the label of the product being used in the mixture.

Always predetermine the compatibility of all tank-mix products together in the carrier by mixing small proportional quantities prior to mixing in the spray tank.

Refer to individual product labels for precautions and restrictions; use according to the most restrictive precautionary statements for each product in the tank-mix.

## S. FOLIAR AND BROADCAST TREATMENT OF JAPANESE KNOTWEED AND ORIENTAL BITTERSWEET

### DIRECTIONS

#### JAPANESE KNOTWEED

For control of Japanese knotweed (*Polygonum cuspidatum*), this product may be applied as a 2.5-percent (by volume) spray-to-wet solution. Ensure thorough coverage when using spray-to-wet treatments using hand-held equipment.

For broadcast application, apply 4 quarts of this product in 3 to 40 gallons of spray solution per acre.

Late summer or fall application is ideal, while leaves are still green and after fruit formation.

#### ORIENTAL BITTERSWEET

For control of Oriental bittersweet (*Celastrus orbiculatus*), this product may be applied as a 2.0-percent (by volume) spray-to-wet solution. Ensure thorough coverage when using spray-to-wet treatments using hand-held equipment.

For broadcast application, apply 3 quarts of this product in 3 to 40 gallons of spray solution per acre.

Late summer or fall application is ideal, while leaves are still green and after fruit formation.

**21-Day Screen Completed by**  
**Contractor**

**21-Day Expires on** 4-30-10

**Jacket #** 69361-EI  
**MRID#** \_\_\_\_\_

**Content Screen: Recommended to**  
**Pass/Fail**

**86-5 Review: Passed/Failed/NA**

**Transfer This Jacket to:**

LINDA ARRINGTON

PM-25

Transfer Jacket

14-Apr-2010 12:47 PM

By: Collins, Lillie

Jacket Barcode	Reg Num	Vol Num	Retired	Current Location	Jacket Status	Due Date	Product Status	Hold Type	Requested By
9287383	69361-EI	1 / 1	<input type="checkbox"/>	Arrington, Linda	Checked Out	13-Jul-2010	Under Review (12-Apr-2010)	None	

# PRIA 2 – 21 Day Content Screen Review Worksheet

(EPA/OPP Use Only)

3/23/09

21 Day Screen Start Date: 4-9-10

Experts In-Processing Signature: MF HARRINGTON Date 4-14-10 Fee Paid: Yes ☒

Division management contacted on issues No ☐ Yes ☐ Date \_\_\_\_\_

EPA Reg. Number: <u>69361-E1</u>		EPA Receipt Date: <u>4-9-10</u>								
Items for Review				Yes	No	N/A*				
1	Application Form (EPA Form 8570-1)(link to form) signed & complete including package type			X						
2	Confidential Statement of Formula all boxes completed, form signed, and dated (EPA Form 8570-4) (Link to form)			X						
	a) All inerts (link to <a href="http://www.epa.gov/oppr001/inerts/">http://www.epa.gov/oppr001/inerts/</a> ), including fragrances, approved for the proposed uses (see Footnote A)		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%; text-align: center;">yes</th> <th style="width: 50%; text-align: center;">no</th> </tr> <tr> <td colspan="2" style="text-align: center;">No inerts present.</td> </tr> </table>	yes	no	No inerts present.				
yes	no									
No inerts present.										
3	Certification with Respect to Citation of Data (EPA Form 8570-34) (Link to form) completed and signed (N/A if 100% repack)					X				
	Certificate and data matrix consistent					X				
	If applicant is relying on data that are compensable, is the offer to pay statement included. (see Footnote B)		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%; text-align: center;">yes</th> <th style="width: 50%; text-align: center;">no</th> </tr> <tr> <td></td> <td></td> </tr> </table>	yes	no					
yes	no									
	If applicable, is there a letter of Authorization for exclusive use only.									
4	Formulator's Exemption Statement (EPA Form 8570-27) (Link to form) completed and signed (N/A if source is unregistered or applicant owns the technical)			X						
	Data Matrix (EPA Form 8570-35) (Link to form) both internal and external copies (PR 98-5) (Link to PR 98-5) completed and signed (N/A if 100% repack)					X				
5	a) Selective Method (Fee category experts use)		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%; text-align: center;">yes</th> <th style="width: 50%; text-align: center;">no</th> </tr> <tr> <td></td> <td></td> </tr> </table>	yes	no					
yes	no									
b) Cite-All (Fee category experts use)		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%; text-align: center;">yes</th> <th style="width: 50%; text-align: center;">no</th> </tr> <tr> <td></td> <td></td> </tr> </table>	yes	no						
yes	no									
c) Applicant owns all data (Fee category experts use)		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%; text-align: center;">yes</th> <th style="width: 50%; text-align: center;">no</th> </tr> <tr> <td></td> <td></td> </tr> </table>	yes	no						
yes	no									
6	5 Copies of Label (link to <a href="http://www.epa.gov/oppfead1/labeling/lrm/">http://www.epa.gov/oppfead1/labeling/lrm/</a> ) (Electronic labels on CD are encouraged and guidance is available)( link to <a href="http://www.epa.gov/pesticides/regulating/registering/submissions/index.htm#labels">http://www.epa.gov/pesticides/regulating/registering/submissions/index.htm#labels</a> )			X						

7	Is the data package consistent with PR Notice 86-5 (link to PRN 86-5)			X
8	Notice of Filing (link to <a href="http://www.epa.gov/pesticides/regulating/tolerance_petitions.htm">http://www.epa.gov/pesticides/regulating/tolerance_petitions.htm</a> ) included with petitions (link to <a href="http://www.epa.gov/pesticides/regulating/tolerances.htm">http://www.epa.gov/pesticides/regulating/tolerances.htm</a> )			X
9	If applicable for conventional applications, reduced risk rationale (link to <a href="http://www.epa.gov/opprd001/workplan/reducedrisk.html">http://www.epa.gov/opprd001/workplan/reducedrisk.html</a> )			X
10	Required Data (link to <a href="http://www.epa.gov/pesticides/regulating/data_requirements.htm">http://www.epa.gov/pesticides/regulating/data_requirements.htm</a> ) and/or data waivers. See Footnote C.			
	a) List study (or studies) not included with application			

**Comments:**

- \* There are no studies associated with this submission.
- \* No inerts present

Passed

AB

\* N/A – Not Applicable

**Footnotes**

A. During the 21 day initial content review, all CSFs will be reviewed to determine whether all inerts listed, including fragrances, are approved for the proposed uses. If an unapproved inert is identified, the applicant must either 1) resolve the inert issue by, for example, removing the inert, substituting it with an approved inert, submitting documentation that EPA approved the inert for the proposed pesticidal uses, correcting mistakes on the CSF, etc. or 2) provide the data to support OPP approval of the inert or 3) withdraw the application. Removing or substituting an inert ingredient will require a new CSF and may require submission of data. All information, forms, data and documentation resolving the inert issue must have been received by the Agency or the application withdrawn within the 21 day period, otherwise, the Agency will reject the application as described below.

To successfully complete this aspect of the 21 day initial content screen, applicants are **strongly encouraged** to verify that all inert ingredients have been approved for the application's uses **even if a product is currently registered** by consulting the inert Web

site [link to <http://www.epa.gov/oppr001/inerts/lists.html>] and if the inert is not approved, to **obtain the necessary inert approval prior to submitting an application to register a pesticide product containing that inert ingredient**. Some inert ingredients are no longer approved for food uses or certain types of uses. The name and/or CAS number on a CSF must match the name and CAS number on this web site. Simple typographical errors in the name or CAS number have resulted in processing delays.

If an inert is not listed on the inert ingredient web site and the applicant believes that the inert has been approved, the applicant should contact the Inert Ingredient Assessment Branch (IIAB) at [inertsbranch@epa.gov](mailto:inertsbranch@epa.gov) and resolve the issue. Copies of the correspondence with IIAB resolving the issue should accompany the application. All new inerts except PIP inerts are reviewed by IIAB. The IIAB should also be contacted for any questions on what supporting data needs to be submitted for and the Agency's inert review process. Questions on PIP inerts should be directed to the Chief of Microbial Pesticides Branch [Link to [http://www.epa.gov/oppbppd1/biopesticides/contacts\\_bppd.htm](http://www.epa.gov/oppbppd1/biopesticides/contacts_bppd.htm)].

When a brand, trade, or proprietary name of an inert ingredient is listed on a CSF, additional information such as an alternate name of the inert, CAS number or other information [link to <http://www.epa.gov/oppr001/inerts/tips.pdf>] must also be included to enable the Agency to determine if it has been approved. Each component of an inert mixture (including a fragrance) must be identified. In some cases, the supplier of the mixture or fragrance may need to provide this information to the Agency. Prior to the Agency's receipt of an application, applicants must arrange with a proprietary mixture or fragrance supplier to provide the component information to the Agency or promptly upon EPA's request. If the inert ingredients in a proprietary blend (including fragrances) cannot or are not identified or provided within the 21-day content review period, the Agency will reject the application.

During the 21 day content review, applicants should submit information to the individual identified by the Agency when the applicant is informed of an unapproved inert.

### **Unapproved Inerts Identified on CSFs**

#### **All applications except conventional new products and PIPs**

Once an unapproved inert is identified on a CSF, the Agency will contact the applicant with the following options:

1. Correct the application by, for instance, correcting the inert's identity or CAS number, providing documentation that the inert has been approved, or removing the unapproved inert from the CSF or replacing it with one that is approved for the application's uses; or
2. Submit the information and data needed for the Agency to approve the unapproved inert. If this option is selected and implemented, the Agency may request an extension in the PRIA decision review timeframe to accommodate the inert review/approval process;

MASTER LABEL FOR EPA REG. NO. 69361-

Registered Brand Names:  
TOPDOG 41% PLUS

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\*\*See each label part for more detailed table of contents\*\*



# 1 MAIN LABEL FOR FOOD CROP USES

## TOPDOG 41% PLUS Herbicide

### Complete Directions for Use

EPA Reg. No. 69361- 81=

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY® CROPS), DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

Herbicide for Roundup Ready Crops

Selective broad-spectrum weed control in Roundup Ready crops

Non-selective, broad-spectrum weed control for many agricultural systems and farmsteads A

member of the Roundup Family of Agricultural Herbicides by Monsanto

The President's Green Chemistry Award was presented in 1996 to Monsanto for its innovative "zerowaste" process in the manufacture of Roundup Herbicide.

Not all products listed on this label are registered for use in California. Check the registration status of each product in California before using.

Read the entire label before using this product.

Use only according to label instructions.

Read the "LIMIT OF WARRANTY AND LIABILITY" statement at the end of the label before buying or using. If terms are not acceptable, return at once unopened.

THIS IS AN END-USE PRODUCT. REPAR CORPORATION DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION. SEE INDIVIDUAL CONTAINER LABEL FOR REPACKAGING LIMITATIONS.

[Optional Container Label Statement: THIS IS AN END-USE PRODUCT. REPAR CORPORATION DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION. REPACKAGING OF THIS PRODUCT FOR DISTRIBUTION OR SALE MAY BE CONDUCTED ONLY UNDER THE TERMS OF A WRITTEN CONTRACT WITH REPAR CORPORATION.]

[Optional Container Label Statement: THIS IS AN END-USE PRODUCT. REPAR CORPORATION DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION OR REPACKAGING.]

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## 1.0 INGREDIENTS

### ACTIVE INGREDIENT:

\*Glyphosate, N-(phosphonomethyl)glycine, in the form of its isopropylamine salt ... 41.0%

OTHER INGREDIENTS: ... 59.0%  
100.0%

\*Contains 480 grams per liter or 4 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its isopropylamine salt. Equivalent to 356 grams per liter or 3 pounds per U.S. gallon of the acid, glyphosate.

## 2.0 IMPORTANT PHONE NUMBERS

1. FOR PRODUCT INFORMATION OR ASSISTANCE IN USING THIS PRODUCT,  
CALL TOLL-FREE,

[1-301-562-7330]

2. IN CASE OF AN EMERGENCY INVOLVING THIS HERBICIDE PRODUCT, OR FOR MEDICAL  
ASSISTANCE, CALL COLLECT, DAY OR NIGHT,

[1-800-858-7378]

### 3.0 PRECAUTIONARY STATEMENTS

#### 3.1 Hazards to Humans and Domestic Animals

Keep out of reach of children

## WARNING! AVISO!

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail)

CAUSES SUBSTANTIAL BUT TEMPORARY EYE INJURY

HARMFUL IF SWALLOWED OR INHALED

Do not get in eyes or on clothing

Avoid breathing vapor or spray mist

FIRST AID	Call a poison control center or doctor for treatment advice
IF IN EYES	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes</li><li>• Remove contact lenses if present after the first 5 minutes then continue rinsing eye.</li></ul>
IF INHALED	<ul style="list-style-type: none"><li>• Move person to fresh air.</li><li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li></ul>
IF SWALLOWED	<ul style="list-style-type: none"><li>• Have person sip a glass of water if able to swallow.</li><li>• Do not induce vomiting unless told to by a poison control center or doctor.</li><li>• Do not give anything to an unconscious person.</li></ul>
<ul style="list-style-type: none"><li>• Have the product container or label with you when calling a poison control center or doctor, or going for treatment.</li><li>• You may also contact 1-800-858-7378, collect day or night, for emergency medical treatment information.</li><li>• This product is identified as TOPDOG 41% Plus, EPA Registration No. 69361-</li></ul>	

**DOMESTIC ANIMALS:** This product is considered to be relatively nontoxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

#### Personal Protective Equipment (PPE)

Applicators and other handlers must wear: long-sleeved shirt and long pants, shoes plus socks, and protective eyewear. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

#### User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

- Remove clothing immediately if pesticide gets inside.
- Then wash thoroughly and put on clean clothing.

### 3.2 Environmental Hazards

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters. *in water*

### 3.3 Physical or Chemical Hazards

Spray solutions of this product may be mixed, stored and applied using only stainless steel, fiberglass, plastic or plastic-lined steel containers.

DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. This product can only be used in accordance with the Directions for Use on this label or in separately published supplemental labeling. Supplemental labeling can be found on the Internet at [www.agrian.com](http://www.agrian.com), [www.cdms.net](http://www.cdms.net), or [www.greenbook.net](http://www.greenbook.net), or obtained from your Authorized REPAR CORPORATION retailer or REPAR CORPORATION representative.

[The following paragraph is reserved and will only appear on final printed labeling for products under this registration if and when required by EPA:

**ENDANGERED SPECIES PROTECTION REQUIREMENTS:** This product may have effects on federally listed threatened or endangered species or their critical habitat in some locations. When using this product, you must follow the measures contained in the Endangered Species Protection Bulletin for the county or parish in which you are applying the pesticide. To determine whether your county or parish has a Bulletin, and to obtain that Bulletin, consult <http://www.epa.gov/espp/>, or call 1-800-447-3813 no more than 6 months before using this product. Applicators must use Bulletins that are in effect in the month in which the pesticide will be applied. New Bulletins will generally be available from the above sources 6 months prior to their effective dates.]

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.

### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours:

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: coveralls, chemical resistant gloves greater than 14 mils in thickness composed of materials such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber, shoes plus socks and protective eyewear.

#### Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is

used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Keep people and pets off treated areas until spray solution has dried.

#### 4.0 STORAGE AND DISPOSAL

Proper pesticide storage and disposal are essential to protect against exposure to people and the environment due to leaks and spills, excess product or waste, and vandalism. Do not allow this product to contaminate water, foodstuffs, feed or seed by storage and disposal.

**PESTICIDE STORAGE:** Store pesticides away from food, pet food, feed, seed, fertilizers, and veterinary supplies. Keep container closed to prevent spills and contamination.

**PESTICIDE DISPOSAL:** To avoid wastes, use all material in this container, including rinsate, by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program. Such programs are often run by state or local governments or by industry. All disposal must be in accordance with applicable federal, state and local regulations and procedures.

[Alternate PESTICIDE DISPOSAL statement for transport vehicles only: To avoid wastes, empty as much product from this transport vehicle as possible for repackaging or use in accordance with label directions. If wastes cannot be avoided, offer remaining product or rinsate to a waste disposal facility or pesticide disposal program. All disposal must be in accordance with applicable federal, state and local regulations and procedures.]

**CONTAINER HANDLING AND DISPOSAL:** See container label for container handling and disposal instructions and refilling limitations.

[CONTAINER HANDLING AND DISPOSAL STATEMENTS AND REFILLING LIMITATIONS FOR CONTAINER LABELS:]

[CONTAINER HANDLING AND DISPOSAL STATEMENT AND REFILLING LIMITATION FOR NONREFILLABLE RIGID CONTAINERS OF LESS THAN 1-GALLON CAPACITY]

Nonrefillable container. Do not reuse or refill this container.

[Alternate container statement: Nonrefillable container. Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state.]

Triple rinse this container promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Then offer this container for recycling, if available. If recycling is not available, dispose of in accordance with federal, state and local regulations and procedures, which may include puncturing the properly rinsed container and disposing in a sanitary landfill.

[Alternate container disposal statement: Once properly rinsed, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. [Optional container disposal statement: To find the nearest site, contact your chemical dealer or [REPAR CORPORATION] at [1-301-562-7330] If recycling is not available, dispose of in accordance with federal, state and local regulations and procedures, which may include puncturing the properly rinsed container and disposing in a sanitary landfill.]

[Optional container statement: This container is not to be sold to homeowners for residential use.]

[CONTAINER HANDLING AND DISPOSAL STATEMENT AND REFILLING LIMITATION FOR PLASTIC ONE-WAYNONREFILLABLE RIGID PLASTIC 2.5-GALLON CONTAINERS AND BOTTLES OTHER CONTAINERS OF GREATER THAN 1-GALLON BUT EQUAL TO OR LESS THAN 5-GALLON CAPACITY]

Nonrefillable container. Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state.

[Alternate container statement: Nonrefillable container. Do not reuse or refill this container.]

Triple rinse or pressure rinse (or equivalent) this container promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Once properly rinsed, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. [Optional container disposal statement: To find the nearest site, contact your chemical dealer or REPAR CORPORATION at [INSERT PHONE NUMBER].] If recycling is not available, dispose of in accordance with federal, state and local regulations and procedures, which may include puncturing the properly rinsed container and disposing in a sanitary landfill.

[Alternate container disposal statement: Then offer this container for recycling, if available. If recycling is not available, dispose of in accordance with federal, state and local regulations and procedures, which may include puncturing the properly rinsed container and disposing in a sanitary landfill.]

[Optional container statement: This container is not to be sold to homeowners for residential use.]

[CONTAINER HANDLING AND DISPOSAL STATEMENT AND REFILLING LIMITATION FOR NONREFILLABLE RIGID PLASTIC 30-GALLON CONTAINERS AND OTHER CONTAINERS OF GREATER THAN 5-GALLON CAPACITY]

Nonrefillable container. Do not reuse or refill this container.

[Alternate container statement: Nonrefillable container. Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state.]

Triple rinse or pressure rinse (or equivalent) this container promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10

seconds after the flow begins to drip.

Once properly rinsed, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. [Optional container disposal statement: To find the nearest site, contact your chemical dealer or REPAR CORPORATION at [INSERT PHONE NUMBER].] If recycling is not available, dispose of in accordance with federal, state and local regulations and procedures, which may include puncturing the properly rinsed container and disposing in a sanitary landfill.

[Alternate container disposal statement: Then offer this container for recycling, if available. If recycling is not available, dispose of in accordance with federal, state and local regulations and procedures, which may include puncturing the properly rinsed container and disposing in a sanitary landfill.]

[Optional container disposal statement: Return Properly Rinsed Container to Monsanto for Recycling Contact: 1-800-ROUNDUP (1-800-768-6387)]

#### [CONTAINER HANDLING AND DISPOSAL STATEMENT AND REFILLING LIMITATION FOR ALL REFILLABLE CONTAINERS EXCEPT TRANSPORT CONTAINERS:]

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose.

Cleaning this container before refilling is the responsibility of the refiller. Cleaning this container before final disposal is the responsibility of the person disposing of the container.

To clean this container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer this container for recycling, if available.

[Optional container disposal statement: To obtain information about recycling refillable containers, contact REPAR CORPORATION at [INSERT PHONE NUMBER].]

[Optional container disposal statement: Return Properly Rinsed Container to Monsanto for Recycling, Contact 1-800-ROUNDUP (1-800-768-6387)]

#### [CONTAINER HANDLING AND DISPOSAL STATEMENT FOR ALL TRANSPORT CONTAINERS AS DEFINED IN 40 CFR 156.3]

Emptied container retains vapor and product residue. Observe all precautions stated on this label until the container is cleaned, reconditioned or destroyed. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, and worn-out threads and closures. Clean thoroughly before reuse for transportation of a material of different composition or before retiring this transport vehicle from service.

## 5.0 PRODUCT INFORMATION

**Product Description:** This product is a postemergence, systemic herbicide with no soil residual activity. It is generally non-selective and gives broad-spectrum control of many annual weeds, perennial weeds, woody brush and trees. It is formulated as a water-soluble liquid and can be applied using most standard industrial or field sprayers after dilution and thorough mixing with water or other carriers according to label directions.

**Time to Symptoms:** This product moves through the plant from the point of foliage contact to and into the root system. Visible effects are a gradual wilting and yellowing of the plant that advances to complete browning of above ground growth and deterioration of underground plant parts. Effects are visible on most annual weeds within 2 to 4 days, but on most perennial weeds, effects may not be visible for 7 or more days. Extremely cool or cloudy weather following treatment may slow activity of this product and delay development of visual symptoms.

**Stage of Weeds:** Annual weeds are easiest to control when they are small. Best control of most perennial weeds is obtained when treatment is made at late growth stages approaching maturity. Refer to the "ANNUAL WEEDS RATE SECTION", "PERENNIAL WEEDS RATE SECTION" and "WOODY BRUSH AND TREES RATE SECTION" for more information on specific weeds.

Always use the higher product application rate within the given range when weed growth is heavy or dense or when weeds are growing in an undisturbed (non-cultivated) area.



Reduced weed control may result when treating weeds with disease or insect damage, weeds heavily covered with dust, or weeds under poor growing conditions.

**Cultural Considerations:** Reduced control may result when application is made to annual or perennial weeds that have been mowed, grazed, or cut, and have not been allowed to re-grow to the specified stage for treatment.

**Rainfastness:** Heavy rainfall soon after application may wash this product off of the foliage and a repeat application may be required for adequate weed control.

**Spray Coverage:** For best results, spray coverage must be uniform and complete. Do not spray foliage to the point of runoff.

**Mode of Action:** The active ingredient in this product inhibits an enzyme found only in plants and microorganisms that is essential to the formation of specific amino acids.

**No Soil Activity:** Weeds must be emerged at the time of application to be controlled by this product. Weeds germinating from seed after application will not be controlled. Plants arising from unattached underground rhizomes or root stocks of perennials that had not yet emerged at the time of application of this product will not be affected and will continue to grow.

**Biological Degradation:** Degradation of this product is primarily a biological process carried out by soil microbes.

**Maximum Application Rates:** The maximum application or use rates stated throughout this product's labeling are given in units of volume (fluid ounces, pints, or quarts) of this product per acre. However, the maximum allowed application rates apply to this product combined with the use of any and all other herbicides containing the active ingredient glyphosate, whether applied separately or as tank mixtures, on a basis of total pounds of glyphosate (acid equivalents) per acre. If more than one glyphosate-containing product is applied to the same site within the same year, you must ensure that the total use of glyphosate does not exceed the maximum allowed. See the "INGREDIENTS" section of this label for necessary product information.

Except as otherwise specified in a crop section of this label, the combined total of all treatments must not exceed 8 quarts of this product (6 pounds of glyphosate acid) per acre per year. For applications in non-crop sites or in tree, vine, or shrub crops, the combined total of all treatments must not exceed 10.6 quarts of this product (8 pounds of glyphosate acid) per acre per year.

**NOTE:** Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or have other unintended consequences.

## 6.0 WEED RESISTANCE MANAGEMENT

GROUP	9	HERBICIDE
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Glyphosate, the active ingredient in this product, is a Group 9 herbicide based on the mode of action classification system of the Weed Science Society of America. Any weed population may contain plants naturally resistant to Group 9 herbicides. Weed species resistant to Group 9 herbicides may be effectively managed utilizing another herbicide from a different Group or by using other cultural or mechanical practices.

### 6.1 Weed Management Practices

To minimize the occurrence of glyphosate-resistant biotypes observe the following weed management practices:

- Scout your fields before and after herbicide application.
- Start with a clean field, using either a burndown herbicide application or tillage.
- Control weeds early when they are relatively small.
- Add other herbicides (e.g. a selective and/or a residual herbicide) and cultural practices (e.g. tillage or crop rotation) where appropriate.

- One method for adding other herbicides into a continuous Roundup Ready system is to rotate to other Roundup Ready crops.
- Use the application rate for the most difficult to control weed in your field. Avoid tank mixtures with other herbicides that reduce the efficacy of this product (through antagonism), or with ones that encourage application rates of this product below those specified on this label.
- Control weed escapes and prevent weeds from setting seeds.
- Clean equipment before moving from field to field to minimize the spread of weed seed or plant parts.
- Use new commercial seed that is as free of weed seed as possible.

Report any incidence of repeated non-performance of this product on a particular weed to your REPAR CORPORATION representative, local retailer, or county extension agent.

## 6.2 Management of Glyphosate-Resistant Biotypes

Note: Appropriate testing is critical in order to determine if a weed is resistant to glyphosate. Contact your REPAR CORPORATION representative to determine if resistance in any particular weed biotype has been confirmed in your area, or you can visit on the Internet [www.weedresistancemanagement.com](http://www.weedresistancemanagement.com) or [www.weedscience.org](http://www.weedscience.org). For more information see the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label.

[Alternative text: Note: Appropriate testing is critical in order to determine if a weed is resistant to glyphosate. Call 1-800-ROUNDUP (1-800-768-6387) or contact your Monsanto representative to determine if resistance in any particular weed biotype has been confirmed in your area, or visit on the Internet [www.weedresistancemanagement.com](http://www.weedresistancemanagement.com) or [www.weedscience.org](http://www.weedscience.org). For more information see the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label.]

Directions for the control of biotypes confirmed to be resistant to glyphosate are made available on separately published supplemental labeling or Fact Sheets for this product and can be obtained from your local retailer or REPAR CORPORATION representative.

Since the occurrence of new glyphosate-resistant weeds cannot be determined until after product use and scientific confirmation, REPAR CORPORATION is not responsible for any losses that may result from the failure of this product to control glyphosate-resistant weed biotypes.

The following good agronomic practices can reduce the spread of confirmed glyphosate-resistant biotypes:

- If a naturally occurring resistant biotype is present in your field, this product can be tank-mixed or applied sequentially with an appropriately labeled herbicide with a different mode of action to achieve control.
- Cultural and mechanical control practices (e.g. crop rotation or tillage) can also be used as appropriate.
- One method for adding other herbicides into a continuous Roundup Ready system is to rotate to other Roundup Ready crops.
- Scout treated fields after herbicide application and control weed escapes, including resistant biotypes, before they set seed.
- Thoroughly clean equipment before leaving fields known to contain resistant biotypes.

## 7.0 MIXING

Spray solutions of this product may be mixed, stored and applied using only clean stainless steel, fiberglass, plastic or plastic-lined steel containers.

**DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS.**

Eliminate any risk of siphoning the contents of the tank back into the carrier source while mixing. Use

approved anti-back-siphoning devices where required by State or local regulations.

Clean sprayer parts promptly after using this product by thoroughly flushing with water.

PRODUCT PERFORMANCE MAY BE SIGNIFICANTLY REDUCED IF WATER CONTAINING SOIL SEDIMENT IS USED AS CARRIER. DO NOT MIX THIS PRODUCT WITH WATER FROM PONDS AND DITCHES THAT IS VISIBLY MUDDY OR MURKY.

### 7.1 Mixing with Water

This product mixes readily with water. Mix spray solutions of this product as follows.

Begin filling the mixing tank or spray tank with clean water. Add the required amount of this product near the end of the filling process and mix gently. Use caution to avoid siphoning back into the carrier source. During mixing, foaming of the spray solution may occur. To prevent or minimize foaming, mix gently, terminate by-pass and return lines at the bottom of the tank, and, if necessary, use an anti-foam or defoaming agent.

### 7.2 Tank Mixtures

This product does not provide residual weed control. This product may be tank-mixed with other herbicides to provide residual weed control, a broader weed control spectrum or an alternate mode of action. Read and follow all label directions of all products in the tank mixture.

Some tank-mix products have the potential to cause crop injury under certain conditions, at certain growth stages and/or under other circumstances. Read the label for all products used in the tank mixture prior to use to determine the potential for crop injury.

Tank mixtures with other herbicides, insecticides, fungicides, micronutrients or foliar fertilizers could result in reduced weed control or crop injury. Buyer and all users are responsible for any and all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not expressly specified on this label, or in separate supplemental labeling or Fact Sheets published for this product.

When a tank mixture with a generic active ingredient, such as 2,4-D, atrazine, dicamba, diuron or pendimethalin is described on this label, the user is responsible for ensuring that the specific application being made is included on the label of the specific product being used in the tank-mix.

Refer to all individual product labels, supplemental labeling and Fact Sheets for all products in the tank mixture, and observe all precautions and limitations on the label, including application timing restrictions, soil restrictions, minimum re-cropping interval and rotational guidelines. Use according to the most restrictive precautionary statements for each product in the tank mixture.

Always predetermine the compatibility of all tank-mix products together in the carrier by mixing small proportional quantities in advance.

For best results, apply tank mixtures with this product at a minimum spray volume rate of 10 gallons per acre.

### 7.3 Tank-Mixing Procedure

Prepare tank mixtures of this product as follows:

1. Place a 20- to 35-mesh screen or wetting basket over the filling port of the tank.
2. Through the screen, fill the tank one-half full with water and start gentle agitation.
3. If ammonium sulfate is to be used, add it slowly through the screen into the tank, and continue adding water into the tank through the screen. If dry ammonium sulfate is being used, ensure that it is completely dissolved in the tank before adding other products.
4. If a wettable powder is used, prepare a slurry of it with water, and add it SLOWLY through the screen into the tank while continuing gentle agitation.
5. If a flowable formulation is used, premix one part flowable with one part water, and add the diluted mixture SLOWLY through the screen into the tank while continuing gentle agitation.

6. If an emulsifiable concentrate formulation is used, premix one part emulsifiable concentrate with two parts water and add the diluted mixture SLOWLY through the screen into the tank while continuing gentle agitation.
7. Continue filling the tank with water through the screen and add the required amount of this product near the end of the filling process.
8. If a nonionic surfactant is used, add it to the tank before completing the filling process.
9. Add individual formulations to the spray tank as follows: wettable powders, flowable, emulsifiable concentrates, drift control additives, water-soluble liquids (this product), surfactants.

Maintain gentle agitation at all times until the contents of the tank are sprayed out. If the spray mixture is allowed to settle, thorough agitation is required to re-suspend the mixture before spraying.

Keep by-pass and return lines on or near the bottom of the tank to minimize foaming. Screen size in nozzle or line strainers can be no finer than 50 mesh.

#### 7.4 Mixing for Hand-Held Sprayers

Prepare the desired spray volume by mixing the amount of this product as indicated in the following table in water:

Desired Volume	Amount of TOPDOG 41% PLUS					
	0.5%	1 %	1.5%	2%	5%	10%
1 gal	0.7 oz	1.3 oz	2 oz	2.7 oz	6.5 oz	13 oz
25 gal	1 pt	1 qt	1.5 qt	2qt	5qt	10 qt
100 gal	2 qt	1 gal	1.5 gal	2 gal	5 gal	10 gal

2 tablespoons = 1 fluid ounce

For use in backpack sprayers, consider mixing the appropriate amount of this product with water in a larger container and then filling the sprayer from the larger container.

#### 7.5 Surfactants

Nonionic surfactants (NIS) or wetting agents that have at least 70 percent active ingredient and are labeled for use with herbicides may be added to the spray solution, unless otherwise directed. Do not reduce rates of this herbicide when adding surfactants. Read and carefully observe all caution statements and other information appearing on the surfactant label.

#### 7.6 Ammonium Sulfate

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water may increase the performance of this product on annual and perennial weeds, particularly under hard water conditions, drought conditions or when tank-mixed with certain residual herbicides. An equivalent rate of a liquid formulation of ammonium sulfate may also be used. Ensure that dry ammonium sulfate is completely dissolved in the spray tank before adding herbicides. Thoroughly rinse the spray system with clean water promptly after use to reduce corrosion.

NOTE: When using ammonium sulfate, apply this product at rates specified on this label. Lower rates will result in reduced performance.

#### 7.7 Colorants or Dyes

Colorants or marking dyes may be added to spray solutions of this product; however, they can reduce performance. Use colorants or dyes according to the manufacturer's directions.

#### 7.8 Drift Reduction Additives

Drift reduction additives may be used with all equipment types, except wiper applicators, sponge bars and Controlled Droplet Applicators. When a drift reduction additive is used, read and carefully observe all

precautions, limitations, and all other information on the additive label. Use of drift reduction additives can affect spray coverage, which can reduce product performance.

## 8.0 APPLICATION EQUIPMENT AND TECHNIQUES

Do not apply this product through any type of irrigation system.

This product may be applied with the following application equipment:

Aerial - Fixed wing and helicopter

Ground Broadcast Spray - Boom or boomless systems, pull-type sprayers, floaters, pick-up sprayers, spray coupes and other ground broadcast equipment

Hand-Held or Backpack Spray Equipment - Backpack sprayers, pump-up pressure sprayers, handguns, handwands, mistblowers\*, lances and other hand-held and motorized spray equipment used to direct the spray onto weed foliage

\* This product is not registered in California or Arizona for use in mistblowers.

Selective Equipment - Shielded and hooded sprayers, wiper applicators and sponge bars

Injection Systems - Aerial or ground injection sprayers Controlled Droplet Applicator

(CDA) - Hand-held or boom-mounted applicators that produce a spray consisting of a narrow range of droplet sizes

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING THE DESIRED VOLUMES.

### 8.1 Aerial Equipment

All treatments described on this label may be made using aerial application equipment where appropriate, provided that the applicator complies with the precautions and restrictions specified on this label and in separate supplemental labeling published for this product.

DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDITIONS SPECIFIED ON THIS LABEL.

Apply this herbicide at the appropriate rate as described on this label in 3 to 15 gallons of water per acre unless otherwise directed on this label or in separate supplemental labeling of Fact Sheets published for this product. Unless otherwise specified, do not exceed 2 quarts of this product per acre when using aerial application equipment. Refer to the individual use area sections of this label for application rates, spray volumes and additional use instructions.

FOR AERIAL APPLICATION IN ARKANSAS OR CALIFORNIA, OR SPECIFIC COUNTIES THEREIN, REFER TO THE FEDERAL SUPPLEMENTAL LABELING FOR AERIAL APPLICATION OF THIS PRODUCT IN THAT STATE OR COUNTY FOR SPECIFIC INSTRUCTIONS, RESTRICTIONS AND REQUIREMENTS.

This product, when tank-mixed with dicamba, may not be applied by air in California.

Only 2,4-D amine formulations may be used with aerial application in California. Tank mixtures of this product with 2,4-D amine formulations may be applied by air in California for fallow and reduced tillage systems and for alfalfa and pasture renovation applications only.

Ensure uniform application. To avoid streaked, uneven or overlapped application, use appropriate marking devices.

Do not allow the herbicide solution to mist, drip, drift, or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants, or other areas on which treatment was not intended.

### AERIAL SPRAY DRIFT MANAGEMENT

The following drift management requirements must be followed to avoid off-target movement during aerial application to agricultural field crops.

1. The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.

2. Nozzles must always point backward, parallel with the air stream and never be pointed downwards more than 45 degrees. Comply with all State regulations where applicable.

#### Importance of Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (read the following sections on "Wind", "Temperature and Humidity", and "Temperature Inversions").

#### Controlling Droplet Size

- Volume: Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with the higher rated flows produce larger droplets.
- Pressure: Use the lower spray pressures listed for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, use higher flow rate nozzles instead of increasing spray pressure.
- Number of nozzles: Use the minimum number of nozzles that will provide uniform coverage.
- Nozzle orientation: Orienting nozzles so that the spray is released backwards, parallel to the airstream, will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- Nozzle type: Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.
- Boom length: For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.
- Application height: Applications must not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces the exposure of the droplets to evaporation and wind.

#### Swath Adjustment

When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Increase the swath adjustment distance with increasing drift potential (higher wind speed, smaller droplets, etc.).

#### Wind

Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given wind speed. Application must be avoided when wind speeds are below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator must be familiar with local wind patterns and how they affect drift.

#### Temperature and Humidity

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

#### Temperature Inversions

Applications must not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, the movement of smoke produced by a ground source or an aircraft smoke generator can also identify temperature inversions. Smoke that layers and moves laterally in a concentrated cloud (under low

wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

#### Sensitive Areas

Apply this product only when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

Avoid direct application to any body of water.

#### Aircraft Maintenance

Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of this product accumulated during spraying or from spills. PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. LANDING GEAR IS MOST SUSCEPTIBLE. Maintaining an organic coating (paint) that meets aerospace specification MIL-C-38413 may help prevent corrosion.

### 8.2 Ground Broadcast Equipment

Apply this product at the appropriate rate in 3 to 40 gallons of water per acre when making a broadcast application using ground application equipment unless otherwise directed on this label or on supplemental labeling or Fact Sheets for this product. As the weed density increases, increase the spray volume towards the upper end of this range to ensure complete coverage. Carefully select proper nozzles to avoid generating a fine mist. For best results with ground application equipment, use flat spray nozzles. Check spray pattern for uniform distribution.

### 8.3 Hand-Held or Backpack Equipment

Apply to foliage of vegetation to be controlled. For best results, spray coverage must be uniform and complete. Use coarse sprays only. For applications made on a spray-to-wet basis, do not spray to the point of run-off. For appropriate spray concentrations and timing, refer to the "ANNUAL WEEDS-HAND-HELD OR BACKPACK EQUIPMENT" section of this product label.

### 8.4 Selective Equipment

This product may be diluted in water and applied using a shielded sprayer, hooded sprayer, wiper applicator or sponge bar to weeds listed on this label growing in any non-crop site listed on this label.

In cropping systems, a shielded sprayer, hooded sprayer, or wiper applicator may be used in-between rows of crop plants (row middles). A wiper applicator may be used over the top of crops only when specifically directed on this label. Selective equipment must be capable of preventing all contact of the herbicide solution with the crop and operated without spray-mist escape, leakage, or dripping of the herbicide solution onto the crop.

#### AVOID CONTACT OF THIS HERBICIDE WITH DESIRABLE VEGETATION.

Contact of this product with desirable vegetation may result in unwanted plant damage or destruction.

Crop injury may occur when the foliage of treated weeds comes into contact with leaves of the crop. Do not apply this product when crop leaves are growing in direct contact with weeds to be treated. Droplets, mist, foam or splatter of the herbicide solution settling onto desirable vegetation may result in discoloration, stunting or destruction.

Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations or when the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatment may be necessary.

#### Shielded and Hooded Sprayers

This product, when applied at rates specified on this label using a shielded or hooded sprayer according to the directions described in this section, will control those weeds listed in the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label.

A hooded sprayer is a type of shielded sprayer where the spray pattern is fully enclosed, including the top, sides, front and back, thereby shielding the crop from the spray solution. Adjust the shields on these sprayers to protect desirable vegetation. When applying around crops grown on raised beds, ensure that the hood is capable of completely enclosing the spray pattern. If necessary, extend the front and rear flaps of the hooded sprayer downward to reach the ground in deep furrows. **USE EXTREME CARE TO AVOID CONTACT OF THIS HERBICIDE WITH DESIRABLE VEGETATION.**

This equipment must be configured and operated in a manner that minimizes bouncing and avoids raising the hood up off the ground surface at any time. If the hood is raised, spray particles may escape and come into contact with the crop, causing damage or destruction of the crop. Avoid operating this equipment on rough or sloping terrain where the spray hood might be raised up off the ground surface.

Use hoods designed to minimize excessive dripping or run-off down the inside of the hood, such as a single, low pressure, low-drift, flat-fan nozzle with an 80 to 95 degree spray angle positioned at the top center of the hood, with a spray volume of 20-30 gallons per acre.

The following procedures can reduce the potential for crop injury when using a hooded sprayer:

- Spray hood must be operated on the ground or skimming across the ground surface.
- Leave at least an 8-inch untreated strip over the drill row. (For example, if the crop row width is 38 inches, make the maximum width of the spray hood 30 inches.)
- Operate at ground speeds of no greater than 5 miles per hour to avoid bouncing of the spray hood.
- Apply when wind speed is 10 miles per hour or less.
- Use low-drift nozzles that provide uniform coverage within the treated area.

Crop injury may occur when foliage of treated weeds comes into direct contact with leaves of the crop. Do not apply this product when leaves of the crop are growing in direct contact with weeds to be treated. Droplets, mist, foam or splatter of the herbicide solution settling onto desirable vegetation may result in discoloration, stunting or destruction.

#### Wiper Applicator

A wiper applicator is a device that physically wipes this product directly onto the weed. Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation.

Adjust the height of the wiper applicator to ensure adequate contact with weeds and so that the wiper contact point is at least 2 inches above the desirable vegetation. Better results can be obtained when more of the weed is exposed to the herbicide solution and weeds are a minimum of 6 inches above the desirable vegetation. Weeds not contacted by the herbicide solution will not be affected. Poor contact may occur when weeds are growing in dense clumps, in severe weed infestations or when weed height varies dramatically. In these situations, repeat treatments may be necessary.

Operate this equipment at a ground speed of no greater than 5 miles per hour. Performance may be improved by reducing speed in areas of heavy weed infestations to provide adequate wiper saturation with the herbicide solution. Better results may be obtained when two applications are made in opposite directions.

Droplets, mist, foam or splatter of the herbicide solution settling onto desirable vegetation may result in discoloration, stunting or destruction. Avoid leakage or dripping onto desirable vegetation. Keep wiping surfaces clean. Be aware that on sloping ground the herbicide solution may migrate, causing dripping on the lower end and drying of the wicks on the upper end of the wiper applicator.

Do not use wiper applicator when weeds are wet.

Mix only the amount of this product to be used during a 1-day period, as reduced product performance may result from use of solutions held in storage. Clean wiper parts promptly by thoroughly flushing with water.

Do not add surfactant to the herbicide solution when using a wiper applicator.

For Rope or Sponge Wick Applicator - use solutions ranging from 33 to 75 percent of this product in water.

For Panel Applicator - use solutions ranging from 33 to 100 percent of this product in water.



## 8.5 Injection Systems

This product may be used in aerial or ground injection spray systems. It may be used as a liquid concentrate or diluted prior to injecting into the spray stream. Do not mix this product with the concentrate of other products for use in injection systems.

## 8.6 Controlled Droplet Applicator (CDA)

The amount of this product applied per acre using a vehicle-mounted controlled droplet applicator (CDA) must be no less than the amount specified on this label for application using conventional broadcast application equipment. Apply the appropriate amount of this product in 2 to 15 gallons of water per acre when using a vehicle-mounted CDA.

For control of annual weeds using a hand-held CDA, apply a 20-percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 1.5 miles per hour (1 quart per acre). For the control of perennial weeds, apply a 20 to 40-percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 0.75 miles per hour (2 to 4 quarts per acre).

Controlled droplet applicators produce a spray pattern that is not easily visible. Extreme care must be taken to avoid spray or drift onto the foliage or any other green tissue of desirable vegetation, as damage or destruction of the plant may result.

## 9.0 ANNUAL AND PERENNIAL CROPS

**NOTE: THIS SECTION GIVES DIRECTIONS THAT APPLY TO ALL CROPS LISTED ALPHABETICALLY IN THE SECTIONS THAT FOLLOW. SEE THE INDIVIDUAL CROP SECTIONS FOR SPECIFIC INSTRUCTIONS, PREHARVEST INTERVALS, AND ADDITIONAL PRECAUTIONS AND RESTRICTIONS.**

See the "ROUNDUP READY CROPS" section of this label, or separately published supplemental labeling for this product for instructions on application in Roundup Ready crops.

**TYPES OF APPLICATION:** Chemical Fallow, Preplant Fallow Beds, Preplant, At-Planting, Preemergence, Hooded Sprayer in Row-Middles, Shielded Sprayer in Row-Middles, Wiper Applicator in Row-Middles, Post-Harvest

**USE INSTRUCTIONS:** Apply this product during fallow intervals preceding planting, prior to planting or transplanting, at-planting, or preemergence to annual and perennial crops listed on this label, except where specifically limited. For any crop not listed on this label, application must be made at least 30 days prior to planting. Unless otherwise specified, apply this product according to the rates listed in the "ANNUAL WEEDS RATE SECTION", "PERENNIAL WEEDS RATE SECTION", and "WOODY BRUSH AND TREES RATE SECTION" of this label. Application rates specified on this label for the control of tough weeds, or those specified on separate supplemental labeling for this product, supersede the rates in the "ANNUAL WEEDS RATE SECTION", "PERENNIAL WEEDS RATE SECTION" and "WOODY BRUSH AND TREES RATE SECTION" of this label. Additional information on the control of tough weeds can be found in Fact Sheets for this product.

Repeat applications may be made up to a maximum of 8 quarts of this product per acre per year.

Hooded sprayers and wiper applicators capable of preventing all crop contact with the herbicide solution may be used in mulched or unmulched row middles after crop establishment. Wiper applicators may be used over the top of crops to control tall weeds only when specifically directed in the individual crop sections that follow. Refer to the "SELECTIVE EQUIPMENT" section of this label for essential precautions regarding crop injury. Crop injury is possible with these types of application, and shall be the sole responsibility of the applicator.

All treatments described in the sections that follow may be made using aerial application equipment where appropriate, provided that the applicator complies with the precautions and restrictions specified on this label and on all supplemental labeling published separately for this product. See the

"APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional information on aerial application and procedures on avoiding spray drift that may cause injury to any vegetation not intended for treatment. Use of appropriate buffer zones will help prevent injury to adjacent vegetation.

**TANK MIXTURES:** This product may be tank-mixed with other herbicides to provide residual weed control, a broader weed control spectrum or an alternate mode of action. Always read and follow label directions for all products in the tank mixture. Use all products according to rates and timing specified on the label. Some tank-mix products have the potential to cause crop injury. Read all labels for products used in the tank mixture prior to use to determine the potential for crop injury. Always predetermine the compatibility of tank-mix products together in the carrier by mixing small proportional quantities in advance. A tank mixture of this product with other herbicides may cause incompatibility, antagonism, or a reduction in product efficacy. REPAR CORPORATION has not tested all tank-mix product

formulations for compatibility, antagonism or performance. Buyer and all users are responsible for any and all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not specifically identified on this labeling, or in separate supplemental labeling or Fact Sheets for this product. See the "MIXING" section of this label for more information on tank mixtures.

**PRECAUTIONS, RESTRICTIONS:** Avoid contact of this herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops, as severe crop injury or destruction may result. When making at-planting and preemergence applications, application must be made before crop emergence to avoid severe crop injury. Broadcast application made at emergence will result in injury or death of emerged seedlings. Apply before seed germination in coarse sandy soils to further minimize the risk of injury. Unless otherwise specified on this label, treatment with selective equipment, including wiper applicators and hooded sprayers, must be made at least 14 days prior to harvest. Post-harvest or fallow application must be made at least 30 days prior to planting any crops not listed on this label. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional information.

In crops where spot treatment is allowed, do not treat more than 10 percent of the total field to be harvested. Crop sprayed in treated area will be killed. Take care not to spray or allow spray to drift outside the target area in order to avoid unwanted crop destruction.

Do not harvest or feed treated vegetation for 8 weeks following broadcast postemergence application, unless otherwise specified.

Observe the maximum application rates stated throughout this label. Maximum application rates apply to the use of this product combined with the use of any and all other herbicides containing glyphosate as the active ingredient, whether applied separately or as mixtures. Calculate the application rates (glyphosate acid equivalents) and ensure that the total use of this and other glyphosate-containing products does not exceed the stated maximum rate. See the "PRODUCT INFORMATION" section of this label for more information on Maximum Application Rates.

#### 9.1 Cereal and Grain Crops

**LABELED CROPS:** Barley, Buckwheat, Millet (pearl, proso), Oats, Rice, Rye, Quinoa, Teff, Teosinte, Triticale, Wheat (all types), Wild rice

**TYPES OF APPLICATION:** Those listed in Section 9.0 plus Red Rice Control Prior to Planting Rice, Spot Treatment (Except Rice), Wiper Applicator (Feed Barley and Wheat Only), Preharvest (Feed Barley and Wheat Only)

Preplant, At-Planting, Preemergence

**USE INSTRUCTIONS:** This product may be applied before, during or after planting of cereal crops, but prior to crop emergence.

**TANK MIXTURES:** In wheat, a tank-mix with Aim may be used.

Red Rice Control Prior to Planting Rice

**USE INSTRUCTIONS:** Apply 1.5 quarts of this product in 5 to 10 gallons of water per acre. Flush fields prior to application to obtain uniform germination and stand of red rice. Make application when the majority of the red rice plants are at the 2-leaf stage and no more than 4 inches tall. Red rice plants with less than 2 true leaves may be only partially controlled.

**PRECAUTIONS, RESTRICTIONS:** Avoid spraying during conditions of low humidity, as reduced control

may result. Do not treat rice fields or levees when the fields contain floodwater. Do not flood treated fields for 8 days following application.

#### Spot Treatment (Except Rice)

USE INSTRUCTIONS: This product may be applied as a spot treatment in cereal crops, except rice.

Apply this product before heading in small grains.

PRECAUTIONS, RESTRICTIONS: Do not treat more than 10 percent of the total field area to be harvested. Crop sprayed in treated area will be killed. Take care not to spray or to allow spray to drift outside target area in order to avoid unwanted crop destruction.

#### Wiper Applicator (Feed Barley and Wheat Only)

USE INSTRUCTIONS: This product may be applied over the top of feed barley and wheat using a wiper applicator. To control common rye or cereal rye, apply after the weeds have headed and achieved maximum growth. See additional instructions on the use of wiper applicators in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

PRECAUTIONS, RESTRICTIONS: Allow at least 35 days between application and harvest. Do not use roller applicators.

#### Preharvest (Feed Barley and Wheat Only)

USE INSTRUCTIONS: This product provides weed control when applied prior to harvest of feed barley or wheat. For feed barley, apply after the hard-dough stage when the grain contains 20 percent moisture or less. For wheat, apply after the hard-dough stage when the grain contains 30 percent moisture or less. Stubble may be grazed immediately after harvest.

For ground application, apply this product in 10 to 20 gallons of water per acre. For aerial application, apply this product in 3 to 10 gallons of water per acre.

PRECAUTIONS, RESTRICTIONS: Do not apply more than 1 quart of this product per acre. Allow 7 days between application and harvest or grazing. Preharvest application on barley or wheat grown for seed could result in a reduction in germination or vigor. Buyer and all users are responsible for any and all loss or damage in connection with the preharvest use of this product on barley or wheat grown for seed.

#### Post-Harvest

USE INSTRUCTIONS: This product may be applied for weed control after harvest of cereal crops. Higher rates may be required to control large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used. Ensure that the specific product being used is labeled for weed control following harvest of cereal crops. Read and follow label directions of all products in the tank mixture.

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation. Application must be made at least 30 days prior to planting any crop not listed on this label.

## 9.2 Corn

TYPES OF CORN: Field corn, Popcorn, Seed corn, Silage corn, Sweet corn

TYPES OF APPLICATION: Those listed in Section 9.0 plus Spot Treatment, Preharvest

For use directions with corn hybrids with Roundup Ready 2 Technology (including Roundup Ready Corn 2 and products displaying the Roundup 2 Technology logo), see the "ROUNDUP READY CROPS" section of this label.

#### Preplant, At-Planting, Preemergence

USE INSTRUCTIONS: This product may be applied alone or in a tank-mix before, during or after planting corn, but prior to crop emergence.

TANK MIXTURES: This product may be tank-mixed with the following products to provide residual weed control, a broader weed control spectrum or an alternate mode of action. Ensure that the specific product

being used is labeled for application prior to the planting or emergence of corn. Read and follow label directions for all products in the tank mixture. Apply these tank mixtures in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre.

[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use preplant, at-planting and/or preemergence to corn:

2,4-D, acetochlor, alachlor, atrazine, carfentrazone-ethyl, clopyralid, dicamba, diflufenzopyr, dimethenamid, dimethenamid-p, flufenacet, flumetsulam, flumiclorac pentyl ester, isoxaflutole, linuron, metolachlor, s-metolachlor, metribuzin, pendimethalin, simazine

Aim, Aim EC, Axiom, Balance, Balance PRO, Banvel, Bicep MAGNUM, Bicep II MAGNUM, Bicept Lite II Magnum, Bullet, Cinch, Cinch ATZ, Clarity, Define, Degree, Degree Xtra, Distinct, Dual MAGNUM, Dual II MAGNUM, Epic, Frontier, FulTime, Guardsman, Guardsman MAX, Harness, Harness Xtra, Harness Xtra 5.6L, Hornet, Keystone, Keystone LA, Lariat, Leadoff, Linex, Lorox, Marksman, Me-too-Lachlor II, Micro-Tech, Outlook, Prowl, Python, Python II, Radius, Resolve, Resource, Shark, Simazine, Stalwart, Stalwart C, Stalwart Xtra, Surpass, TopNotch]

For tough-to-control annual weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 2 pints per acre in these tank mixtures. For other annual weeds listed on this label, apply 1.5 to 2 pints of this product per acre when weeds are less than 6 inches tall, and 2 to 3 pints per acre when weeds are over 6 inches tall. When using nitrogen solutions as the carrier, application rate may need to be increased for acceptable weed control.

**PRECAUTIONS, RESTRICTIONS:** Application of 2,4-D or dicamba must be made at least 7 days prior to planting corn. Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

In Southern states, do not apply this product in nitrogen solutions to tough-to-control grasses such as barnyardgrass, fall panicum, broadleaf signalgrass, annual ryegrass and any perennial weeds. This area includes Illinois and Indiana south of Route 50, Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, New Jersey, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia.

#### Hooded Sprayer

**USE INSTRUCTIONS:** This product may be applied using a hooded sprayer for weed control in-between rows of corn. Only hooded sprayers that completely enclose the spray pattern may be used. See additional instructions for the use of hooded sprayers in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Corn must be at least 12 inches tall, measured without extending leaves. Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator. Do not apply more than 1 quart of this product per acre for each hooded sprayer application and no more than 3 quarts per acre, per year total.

#### Spot Treatment

**USE INSTRUCTIONS:** This product may be applied as a spot treatment prior to silking of corn.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. Crop sprayed in the treated area will be killed. Take care not to spray or to allow spray to drift outside target area to avoid unwanted crop destruction.

#### Preharvest

**USE INSTRUCTIONS:** Make application at 35 percent grain moisture or less. Ensure that maximum kernel fill is complete and the corn is physiologically mature (black layer formed). For ground application, apply up to 3 quarts of this product per acre. For aerial application, apply up to 2 quarts of this product per acre.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest. Preharvest application on corn grown for seed could result in a reduction in germination or vigor. Buyer and all users are responsible for any and all loss or damage in connection with the preharvest use of this product on corn grown for seed.

#### Post-Harvest

**USE INSTRUCTIONS:** This product may be applied for weed control after harvest of corn. Higher rates may be required to control large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used. Ensure that the specific product being used is labeled for post-harvest application in corn. Read and follow label directions of all products in the tank mixture.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation. Application of this product must be made at least 30 days prior to planting any crop not listed on this label. Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

### 9.3 Cotton

**TYPES OF APPLICATION:** Those listed in Section 9.0 plus Selective Equipment, Spot Treatment, Preharvest

For use directions with Roundup Ready cotton and Roundup Ready Flex cotton, see the "ROUNDUP READY CROPS" section of this label.

#### Preplant, At-Planting, Preemergence

**USE INSTRUCTIONS:** This product may be applied before, during or after planting cotton, but prior to crop emergence.

**TANK MIXTURES:** This product may be tank-mixed with 2,4-D and Clarity and applied prior to planting only. This product may also be tank-mixed with the following products and applied prior to crop emergence. Ensure that the specific product being used is labeled for application prior to planting or the emergence of cotton. Read and follow label directions for all products used in the tank mixture. Apply these tank mixtures in 10 to 20 gallons of water per acre.

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(Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use preplant, at-planting and/or preemergence to cotton:

2,4-D, clomazone, dicamba, diuron, flumioxazin, fluometuron, fomesafen, metolachlor, s-metolachlor, pendimethalin, norflurazon, prometryn, pyriithobac-sodium

Caparol, Clarity, Command, Cotoran, Cotton-Pro, Direx, Dual MAGNUM, Dual II MAGNUM, Karmex, Meturon, PARRLAY, Prowl, Prowl H2O, Reflex, Staple, Stalwart, Valor, Zorial]

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**PRECAUTIONS, RESTRICTIONS:** Refer to individual tank-mix product labels for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the mixture.

#### Selective Equipment

**USE INSTRUCTIONS:** This product may be applied using a hooded sprayer, a shielded sprayer or a wiper applicator over the top of cotton. See additional instructions on the use of this selective equipment in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Allow at least 7 days between application and harvest.

#### Spot Treatment

**USE INSTRUCTIONS:** This product may be applied in cotton as a spot treatment prior to boll opening.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. Crop sprayed in the treated area will be killed. Take care not to spray or to allow spray to drift outside target area to avoid unwanted crop destruction.

#### Preharvest

**USE INSTRUCTIONS:** This product provides weed control and cotton re-growth inhibition when applied prior to harvest of cotton. For weed control, apply at rates given in the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label. For cotton re-growth inhibition, apply 1 pint to 2 quarts of this product per acre.

Do not apply more than 2 quarts of this product for preharvest application. Apply after sufficient bolls have developed to produce the desired yield. Application made prior to this time could affect maximum yield potential.

**TANK MIXTURES:** This product may be tank mixed with DEF 6, Folex, Ginstar, or Prep to provide additional enhancement of cotton leaf-drop. Read and follow label directions for all products used in the tank mixture.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest. Preharvest application on cotton grown for seed could result in a reduction in germination or vigor. Buyer and all users are responsible for any and all loss or damage in connection with the preharvest use of this product on cotton grown for seed. Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture. **DO NOT ADD ADDITIONAL SURFACTANT OR ADDITIVES CONTAINING SURFACTANT TO THIS PRODUCT FOR PREHARVEST APPLICATION TO COTTON.**

#### 9.4 Fallow Systems

This product may be applied during the fallow period prior to planting or emergence of any crop listed on this label. For any crop not listed on this label, application must be made at least 30 days prior to planting.

**TYPES OF APPLICATION:** Chemical Fallow, Preplant Fallow Beds, Aid-to-Tillage

##### Chemical Fallow

**USE INSTRUCTIONS:** This product may be used as a substitute for tillage to control annual weeds in fallow fields. Broadcast or spot treatment application will also control or suppress many perennial weeds in fallow fields. Tank-mix this product with 2,4-D or dicamba for a broader weed control spectrum. Aerial application of up to 2 quarts per acre may be made onto fallow sites where there is sufficient buffer to prevent injury due to drift onto adjacent crops.

**PRECAUTIONS, RESTRICTIONS:** Refer to individual tank-mix product labels for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture. Some crop injury may occur if dicamba is applied within 45 days of planting.

##### Preplant Fallow Beds

**USE INSTRUCTIONS:** This product will control weeds listed in the "ANNUAL WEEDS RATE SECTION", "PERENNIAL WEEDS RATE SECTION" and "WOODY BRUSH AND TREES RATE SECTION" of this label prior to planting.

**TANK MIXTURES:** Use 12 fluid ounces of this product, plus 2 to 3 fluid ounces of Goal 2XL, per acre to control the following weeds up to the maximum height or length indicated: 3 inches - common cheeseweed, chickweed, groundsel; 6 inches - London rocket, shepherd's-purse.

Use 16 fluid ounces of this product, plus 2 to 3 fluid ounces of Goal 2XL, per acre to control the following weeds up to the maximum height or length indicated: 6 inches - common cheeseweed, groundsel, marestail (*Coryza canadensis*), 12 inches - chickweed, London rocket, shepherd's-purse.

##### Aid-to-Tillage

**USE INSTRUCTIONS:** This product may be used in conjunction with tillage practices in fallow systems or preplant to crops listed on this label to control downy brome, cheat, volunteer wheat, tansy mustard and foxtail. Apply 12 fluid ounces of this product in 3 to 10 gallons of water per acre before weeds are 6 inches in height. Application must be followed by conventional tillage practices no later than 15 days after treatment and before re-growth occurs. Allow at least 1 day after application before tillage.

**PRECAUTIONS, RESTRICTIONS:** Tank mixtures with residual herbicides may result in reduced performance of this product.

#### 9.5 Grain Sorghum (Milo)

**TYPES OF APPLICATION:** Those listed in Section 9.0 plus Spot Treatment, Wiper Applicator, Preharvest Preplant, At-Planting, Preemergence

**USE INSTRUCTIONS:** This product may be applied alone or in a tank-mixture before, during or after planting grain sorghum, but prior to crop emergence.

**TANK MIXTURES:** This product may be tank-mixed with the products listed below. Ensure that the specific product being used is labeled for application prior to planting or emergence of grain sorghum.

Read and follow label directions for all products used in the tank mixture. Apply these tank mixtures in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre.

(Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use preplant, at-planting and/or preemergence to grain sorghum:

atrazine, alachlor, metolachlor, s-metolachlor

Bicep II MAGNUM, Bullet, Dual II MAGNUM, INTRRO, Lariat, Micro-Tech]

For tough-to-control annual weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply 2 pints of this product per acre in a tank mixture with one of the products listed above.

For control of other annual weeds listed on this label, apply 1.5 to 2 pints of this product per acre when weeds are less than 6 inches tall, and 2 to 3 pints per acre when weeds are over 6 inches tall. When using nitrogen solutions as the carrier, the use rate may need to be increased to achieve adequate weed control.

**PRECAUTIONS, RESTRICTIONS:** Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

**Spot Treatment, Wiper Applicator**

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in grain sorghum before heading. This product may be applied over the top of grain sorghum with a wiper applicator to control or suppress tall weeds. See additional instructions on the use of wiper applicators in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** For spot treatment, do not treat more than 10 percent of the total field area to be harvested. Crop sprayed in treated area will be killed. Take care not to spray or to allow spray to drift outside target area to avoid unwanted crop destruction.

When applied using a wiper applicator, allow at least 40 days between application and harvest. Do not use roller applicators. Do not feed or graze treated grain sorghum fodder. Do not ensile treated vegetation.

**Hooded Sprayer**

**USE INSTRUCTIONS:** This product may be applied using a hooded sprayer for weed control in-between rows of grain sorghum. Only hooded sprayers that completely enclose the spray pattern may be used. See additional instruction for the use of hooded sprayers in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Grain sorghum must be at least 12 inches tall, measured without extending leaves. Treat before grain sorghum sends tillers between the drill rows. If tillers are sprayed with this herbicide, the main plant may be damaged or destroyed. Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the responsibility of the applicator. Do not graze or feed grain sorghum forage or fodder following application of this product with a hooded sprayer. Do not apply more than 1 quart of this product per acre per hooded sprayer application and no more than 3 quarts per acre per year total.

#### Preharvest

**USE INSTRUCTIONS:** This product may be applied prior to harvest after sorghum grain has reached 30 percent grain moisture or less.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 2 quarts of this product per acre. As with other herbicides that cause sudden plant death, avoid preharvest application of this product to milo infected with charcoal rot as lodging can occur. Allow a minimum of 7 days between application and harvest of grain sorghum. Preharvest application on sorghum grown for seed could result in a reduction in germination or vigor. Buyer and all users are responsible for any and all loss or damage in connection with the preharvest use of this product on sorghum grown for seed. Preharvest application of this product on grain sorghum (milo) is not registered for use in California.

#### Post-Harvest

**USE INSTRUCTIONS:** This product may be applied for weed control after harvest of grain sorghum. Higher rates may be required to control large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used. Ensure that the specific product being used is registered for post-harvest application in grain sorghum (milo). Read and follow label directions of all products in the tank mixture.

This product may be applied to grain sorghum (milo) stubble following harvest to suppress or control regrowth. Apply 1 quart of this product per acre for control, or 1.5 pints of this product per acre for suppression.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation. Application must be made at least 30 days prior to planting any crop not listed on this label. Refer to each individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

#### 9.6 Herbs and Spices

**LABELED CROPS:** Allspice, Angelica, Star anise, Annatto (seed), Balm, Basil, Borage, Burnet, Camomile, Caper buds, Caraway, Black caraway, Cardamom, Cassia bark, Cassia buds, Catnip, Celery seed, Chervil (dried), Chive, Chinese chive, Cinnamon, Clary, Clove buds, Coriander leaf (cilantro or chinese parsley), Coriander seed (cilantro), Costmary, Culantro (leaf), Culantro (seed), Cumin, Curry (leaf), Dill (dillweed), Dill (seed), Epazote, Fennel seed (common and Florence), Fenugreek, White ginger flower, Grains of paradise, Horehound, Hyssop, Juniper berry, Lavender, Lemongrass, Lovage (leaf and seed), Mace, Marigold, Marjoram (including oregano), Mexican oregano, Mioga flower, Mustard (seed), Nasturtium, Nutmeg, Parsley (dried), Pennyroyal, Pepper (black and white), Pepper leaves, Peppermint, Perilla, Poppy (seed), Rosemary, Rue, Saffron, Sage, Savory (summer and winter), Spearmint, Stevia leaves, Sweet bay, Tansy, Tarragon, Thyme, Vanilla, Wintergreen, Woodruff, Wormwood

**TYPES OF APPLICATION:** Those listed in Section 9.0 plus Spot Treatment (Peppermint and Spearmint Only), Wiper Applicator (Peppermint and Spearmint Only)

**PRECAUTIONS, RESTRICTIONS:** This product could cause crop injury when applied prior to transplanting or direct-seeding crops into plastic mulch. Remove residual product from the plastic prior to planting with a single 0.5-inch application of water, either by natural rainfall or by irrigation. Ensure that the washwater flushes off the plastic mulch and does not enter transplant holes.

Spot Treatment, Wiper Applicator (Peppermint and Spearmint Only)

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in peppermint or spearmint, or over the top of peppermint and spearmint with a wiper applicator. Apply spot treatment on a spray-by-weight basis using hand-held equipment, such as a backpack sprayer, pump-up pressure sprayer, a hand-gun, hand-wand or any other hand-held or motorized spray equipment used to direct the spray solution to a limited area. See additional instructions on the use of wiper applicators in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Application may be repeated on the same area at 30-day intervals. Allow at least 7 days between application and harvest. For spot treatment application, do not treat more than 10 percent of the total field area to be harvested. Crop sprayed in the treated area will be killed. Take care not to spray or allow spray to drift outside the target area in order to avoid unwanted crop



destruction. With wiper application, droplets, mist, foam or splatter of the herbicide solution onto desirable vegetation may result in discoloration, stunting, or destruction.

#### 9.7 Oil Seed Crops

**LABELED CROPS:** Borage, Buffalo gourd (seed), Canola, Crambe, Flax, Jojoba, Lesquerella, Meadowfoam, Mustard (seed), Rape, Safflower, Sesame, Sunflower

For use directions with Roundup Ready canola, see the "ROUNDUP READY CROPS" section of this label.

**TYPES OF APPLICATION:** Those listed in Section 9.0 plus Preharvest (Safflower and Sunflower only)

**USE INSTRUCTIONS:** Refer to the following table for maximum application rates of this product for use in canola, safflower and sunflower. See the "PRODUCT INFORMATION" section of this label for more information on Maximum Application Rates.

Maximum Application Rates	
<b>Canola</b>	
Combined total for all preemergence and shielded Sprayer applications	2 quarts per acre
<b>Safflower</b>	
Combined total for all preemergence and shielded Sprayer applications	3 quarts per acre
Preharvest application	3 quarts per acre
<b>Sunflower</b>	
Combined total for all preemergence and shielded Sprayer applications	1 quart per acre
Preharvest application	1 quart per acre

#### Preplant, At-Planting, Preemergence

**USE INSTRUCTIONS:** This product may be applied before, during or after planting oil seed crops listed in this section. Observe the maximum application rates for canola, safflower and sunflower listed at the beginning of this section.

**TANK MIXTURES:** For sunflowers, a tank mixture with pendimethalin (Prowl) may be applied before, during or after planting into conventionally tilled soil, a cover crop, established sod or previous crop residue.

#### Selective Equipment

**USE INSTRUCTIONS:** This product may be applied using a wiper applicator or shielded sprayer in-between the rows once the crop is established. See additional instructions on the use of wiper applicators and hooded sprayers in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label. Observe the maximum application rates for canola, safflower and sunflower listed at the beginning of this section.

#### Preharvest (Safflower and Sunflower Only)

**USE INSTRUCTIONS:** This product provides weed control as a harvest aid when applied to a physiologically mature crop of safflower and sunflower prior to harvest. For safflower, apply a maximum of 3 quarts of this product when seed has lost its opaque character, approximately 20 to 30 days after the end of flowering of the secondary branches. For sunflower, apply a maximum of 1 quart of this product when the backsides of sunflower heads are yellow and bracts are turning brown, and seed moisture content is less than 35 percent.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between treatment and harvest or livestock feeding. Application must be made at least 30 days prior to planting any crop not listed on this label.

#### Post-Harvest

USE INSTRUCTIONS: This product may be applied for weed control after harvest of oil seed crops. Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation. Applications must be made at least 30 days prior to planting any crop not listed on this label.

#### 9.8 Soybean

TYPES OF APPLICATION: Those listed in Section 9.0, plus Spot Treatment, Selective Equipment, Preharvest

For use directions with Roundup Ready soybean, and Roundup Ready 2 Yield soybean, see the "ROUNDUP READY CROPS" section of this label.

Preplant, At-Planting, Preemergence

USE INSTRUCTIONS: This product may be applied alone or in a tank mixture before, during or after planting soybean, but prior to crop emergence.

TANK MIXTURES: This product may be tank-mixed with the following products. Ensure that the specific product being used is labeled for application prior to planting or the emergence of soybean. Read and follow label directions for all products in the tank mixture. Apply these tank mixtures in 10 to 20 gallons of water per acre.

[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use preplant, at-planting and/or preemergence to soybeans:

2,4-D, alachlor, atrazine, carfentrazone-ethyl, chlorimuron ethyl, clethodim, clomazone, cloransulam-methyl, dimethenamid, fenoxypop, fluazifop-p-butyl, flufenacet, flumetsulam, flumiclorac pentyl ester, flumioxazin, fomesafen, imazaquin, imazethapyr, lactofen, linuron, metolachlor, s-metolachlor, metribuzin, pendimethalin, sulfentrazone, tribenuron methyl, trifluralin, quizalofop P-ethyl

Aim, Assure II, Axiom, Authority, Blanket, Boundary, Canopy, Canopy EX, Classic, Cobra, Command, Command Xtra, Domain, Dual MAGNUM, Dual II MAGNUM, FirstRate, Flexstar, Frontier, Fusion, Gangster, Gauntlet, INTRRO, Lexone, Linex, Linuron, Lorox, Lorox Plus, Me-Too-Lachlor, Micro-Tech, Outlook, Pendimax, Prowl, Prowl H2O, Pursuit, Pursuit Plus, Python, Reflex, Resource, Scepter, Select, Select MAX, Sencor, Spartan, Squadron, Steel, Treflan, Valor]

For tough-to-control annual weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 2 pints per acre in these tank mixtures. For other labeled annual weeds, apply 1.5 to 2 pints of this product per acre when weeds are less than 6 inches tall, and 2 to 3 pints per acre when weeds are over 6 inches tall.

PRECAUTIONS, RESTRICTIONS: Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

#### Spot Treatment

USE INSTRUCTIONS: This product may be applied as a spot treatment prior to initial pod set in soybean.

PRECAUTIONS, RESTRICTIONS: Do not treat more than 10 percent of the total field area to be harvested. Crop sprayed in treated area will be killed. Take care not to spray or allow spray to drift outside the target area to avoid unwanted crop destruction.

#### Selective Equipment

USE INSTRUCTIONS: This product may be applied in soybean using a shielded applicator, hooded sprayer, wiper applicator or sponge bar. See additional instructions on the use of selective equipment in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

PRECAUTIONS, RESTRICTIONS: Allow at least 7 days between application and harvest.

#### Preharvest

USE INSTRUCTIONS: This product may be applied to soybean prior to harvest after pods have set and

lost all green color. Apply at rates given in the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION". Take care to avoid excessive seed shatter loss due to ground application equipment.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 5 quarts of this product per acre for preharvest application. Do not apply more than 2 quarts of this product per acre by air. Allow a minimum of 7 days between application and harvest of soybeans. If the preharvest application rate is greater than 1 quart per acre, do not graze or harvest treated hay or fodder for livestock feed within 25 days of application. If the application rate is 1 quart per acre or less, the grazing restriction is reduced to 14 days after application. Preharvest application on soybean grown for seed could result in a reduction in germination or vigor. Buyer and all users are responsible for any and all loss or damage in connection with the preharvest use of this product on soybean grown for seed.

### 9.9 Sugarcane

**TYPES OF APPLICATION:** Those listed in Section 9.0 plus Spot Treatment, Sugarcane Ripening

Preplant, At-Planting, Preemergence

**USE INSTRUCTIONS:** This product may be applied in or around sugarcane fields, or in fields prior to the emergence of plant cane.

**PRECAUTIONS, RESTRICTIONS:** Do not apply to vegetation in or around ditches, canals or ponds containing water to be used for irrigation.

#### Spot Treatment

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in sugarcane. For control of volunteer or diseased sugarcane, apply a 1-percent solution of this product in water using a spray-to-wet technique. Best results are obtained on volunteer or diseased sugarcane with at least 7 new leaves.

**PRECAUTIONS, RESTRICTIONS:** Avoid spray contact with healthy sugarcane plants as severe damage or destruction may result. Do not feed or graze treated sugarcane foliage following application.

#### Fallow Treatment

**USE INSTRUCTIONS:** This product may be used as a replacement for tillage in fields that are lying fallow between sugarcane crops. This product may also be used to remove the last stubble of ratoon cane. For removal of last stubble of ratoon cane, apply 4 to 5 quarts of this product in 10 to 40 gallons of water per acre to new growth having at least 7 new leaves. Allow 7 or more days after application before tillage. Aerial application of up to 3 quarts per acre may be made in fallow sites where there is sufficient buffer to prevent drift onto adjacent crops. Tank mixtures with 2,4-D and dicamba may be used. Ensure that the specific product being used is labeled for these applications in sugarcane. Read and follow label directions of all products in the tank mixture.

#### Hooded Sprayer

**USE INSTRUCTIONS:** This product may be applied using a hooded sprayer for weed control in-between rows of sugarcane. See additional instructions on the use of hooded sprayers in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Do not allow treated weeds to come into contact with the crop. Droplets, mist, foam or splatter of the herbicide solution settling on the crop may result in discoloration, stunting or destruction. Such damage shall be the sole responsibility of the applicator.

#### Sugarcane Ripening

**USE INSTRUCTIONS:** This product is a foliar-applied plant growth regulator to hasten ripening and increase the level of sucrose in sugarcane. It is effective in both low and high-tonnage sugarcane.

When applied as directed under the conditions described, this product will hasten ripening and extend the period of high sucrose level in sugarcane.

As a result of leaf desiccation, improved trash burn can be expected.

Most of the sucrose increase is concentrated in the top nodes of the treated cane stalk. To maximize sugar recovery where topping is practiced at harvest, top at the base of the fourth leaf.

Prior to application, consult your state sugarcane authority or local **REPAR CORPORATION** representative regarding the degree of sucrose response anticipated from the variety of sugarcane to be treated.

**Application Rates:** Use the following application rates and timing instructions according to the State in which the sugarcane is grown.

**NOTE:** Use the higher rate within the given range when treating sugarcane under adverse ripening conditions or when less responsive varieties are to be treated.

**FLORIDA-**Apply 7 to 16 fluid ounces of this product per acre 3 to 5 weeks before harvest of **LAST RATOON CANE ONLY**.

**HAWAII-**Apply 12 to 28 fluid ounces of this product per acre 4 to 10 weeks before harvest.

**LOUISIANA-**Apply 5 to 16 fluid ounces of this product per acre 3 to 7 weeks before harvest of **RATOON CANE ONLY**.

**PUERTO RICO-**Apply 7 fluid ounces of this product per acre 3 to 5 weeks before harvest of **RATOON CANE ONLY**.

**TEXAS-**Apply 7 to 16 fluid ounces of this product per acre 3 to 5 weeks before harvest of **RATOON CANE ONLY**.

**PRECAUTIONS, RESTRICTIONS:** Application of this product may initiate development of shooting eyes. This product may not increase the sucrose content of sugarcane under conditions of good natural ripening. Within 2 to 3 weeks after application, this product may produce a slight yellowing to a pronounced browning and drying of leaves, and a shortening of upper internodes. Spindle death may occur.

Rainfall within 6 hours after application may reduce effectiveness.

Application to sugarcane grown for seed could result in a reduction in germination or vigor. Buyer and all users are responsible for any and all loss or damage in connection with the preharvest use of this product on sugarcane grown for seed.

Do not feed or graze treated sugarcane forage following application. Do not plant subsequent crops in treated fields other than the following for 30 days after application: alfalfa or other forage legumes, beans (all types), corn (all types), cotton, melons (all types), pasture grasses, peanuts, potatoes (Irish or sweet), sorghum (milo), soybeans, squash (all types) or wheat.

Do not apply for enhanced ripening to any crops other than sugarcane. Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences.

#### 9.10 Vegetable Crops

**NOTE:** THIS "VEGETABLE CROPS" SECTION GIVES DIRECTIONS THAT APPLY TO ALL VEGETABLE CROPS LISTED ALPHABETICALLY IN THE SECTIONS THAT FOLLOW. SEE THE INDIVIDUAL CROP SECTIONS FOR SPECIFIC USE INSTRUCTIONS, PREHARVEST INTERVALS, PRECAUTIONS AND RESTRICTIONS.

**TYPES OF APPLICATION:** Chemical Fallow, Preplant Fallow Beds, Preplant, At-Planting, Preemergence, Prior to Transplanting Vegetables, Hooded Sprayer in Row Middles, Shielded Sprayer in Row Middles, Wiper Applicator in Row Middles, Post-Harvest

**PRECAUTIONS, RESTRICTIONS:** This product could cause crop injury when applied prior to transplanting or direct-seeding crops into plastic mulch. Remove product residues from the plastic prior to planting with a single 0.5-inch application of water, either by natural rainfall or by irrigation. Ensure that the wash water flushes off the plastic mulch and does not enter transplant holes. Application of this product at crop emergence will result in injury or death to emerged seedlings.

Avoid contact of this herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops, as severe crop injury or destruction may result. When making a preemergence or at-planting application, the application must be made before crop emergence to avoid severe crop injury. Apply before seed germination in coarse sandy soils to further minimize the risk of crop injury. In crops with vines, make hooded sprayer, shielded sprayer and wiper applicator

treatments in row middles prior to vine development, otherwise severe crop injury or destruction may result. Unless otherwise specified on this label, treatment with selective equipment including wiper applicators or hooded sprayers must be made at least 14 days prior to harvest. Post-Harvest or fallow application must be made at least 30 days prior to planting any crop not listed on this label. See additional use instructions in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

#### 9.10.1 Brassica Vegetables

**LABELED CROPS:** Broccoli, Chinese broccoli (gai lan), Broccoli raab (rapini), Brussels sprouts, Cabbage, Chinese cabbage (bok choy), Chinese cabbage (napa), Chinese mustard cabbage (gai choy), Cauliflower, Cavalo broccolo, Collards, Kale, Kohlrabi, Mizuna, Mustard greens, Mustard spinach, Rape greens

#### 9.10.2 Bulb Vegetables

**LABELED CROPS:** Garlic, Great-headed garlic, Leek, Onion (dry bulb and green), Welsh onion, Shallot

#### 9.10.3 Cucurbit Vegetables and Fruits

**LABELED CROPS:** Chayote (fruit), Chinese waxgourd (Chinese preserving melon), Citron melon, Cucumber, Gherkin, Edible gourd (includes hyotan, cucuzza, hechima, Chinese okra), Melons (all), Momordica spp (includes balsam apple, balsam pear, bittermelon, Chinese cucumber), Muskmelon (includes cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey ball melon, mango melon, Persian melon, pineapple melon, Santa Claus melon, snake melon), Pumpkin, Summer squash (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini), Winter squash (includes butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash), Watermelon

**PRECAUTIONS, RESTRICTIONS:** For cantaloupe, casaba melon, crenshaw melon, cucumber, gherkin, gourds, honeydew melon, honey ball melon, mango melon, melons (all), muskmelon, Persian melon, pumpkin, squash (summer, winter), and watermelon, allow at least 3 days between application and planting.

#### 9.10.4 Leafy Vegetables

**LABELED CROPS:** Amaranth (Chinese spinach), Arugula (roquette), Beet greens, Cardoon, Celery, Chinese celery, Celtuce, Chaya, Chervil, Edible-leaved chrysanthemum, Garland chrysanthemum, Corn salad, Cress (garden and upland), Dandelion, Dock (sorrel), Dokudami, Endive (escarole), Florence fennel, Gow kee, Lettuce (head and leaf), Orach, Parsley, Purslane (garden and winter), Radicchio (red chicory), Rhubarb, Spinach, New Zealand spinach, Vine spinach, Swiss chard, Watercress (upland), Water spinach

**PRECAUTIONS, RESTRICTIONS:** For watercress, avoid application within 3 days prior to seeding and during the period between seeding and emergence to minimize the risk of crop injury.

#### 9.10.5 Fruiting Vegetables

**LABELED CROPS:** Eggplant, Groundcherry (Physalis spp), Pepino, Pepper (includes bell pepper, chili pepper, cooking pepper, pimento, sweet pepper), Tomatillo, Tomato

**PRECAUTIONS, RESTRICTIONS:** For eggplant, ground cherry, pepper (all), and tomatillo, allow at least 3 days between application and planting. For tomato and tomatillos grown on sandy soil, do not apply using hooded sprayer, shielded sprayer or wiper applicator in row middles because of the potential for crop injury.

#### 9.10.6 Legume Vegetables (Succulent or Dried)

**LABELED CROPS:** Bean (Lupinus: includes grain lupin, sweet lupin, white lupin, and white sweet lupin), Bean (Phaseolus: includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean), Bean (Vigna: includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean), Broad bean (fava), Chickpea (garbanzo), Guar, Jackbean, Lablab bean, Lentil, Pea (Pisum: includes dwarf pea, edible-podded pea, English pea, field pea, garden pea, green pea, snowpea, sugar snap pea), Pigeon pea, Soybean (immature seed), Sword bean

#### Spot Treatment (Dry Beans, Peas, Lentils and Chickpeas Only)

**USE INSTRUCTIONS:** This product may be applied as a spot treatment to control troublesome weeds such as Canada thistle, quackgrass, mayweed (dog fennel), and milkweed in dry beans, peas, lentils and chickpeas. Apply up to 1 quart of this product per acre in dry beans, or up to 3 quarts per acre in dry peas, lentils and chickpeas, in 10 to 20 gallons of water using ground application equipment, or use a 2-percent solution in a hand-held sprayer. For best results, apply at or beyond the bud stage of growth.

**PRECAUTIONS, RESTRICTIONS:** Apply at least 7 days before harvest. Only one application may be made per year. Do not combine spot treatment with a preharvest broadcast spray on the same crop area. Observe at least a 30-day plant-back interval between treatment and replanting of any crop not listed on this label. Do not feed treated vines and hay to livestock. Do not treat cowpeas or field (feed) peas, since these crops are considered to be grown as livestock feed. Crop sprayed in the treated area will be killed. Take care not to spray or allow spray to drift outside target area in order to avoid unwanted crop destruction.

#### Preharvest (Dry Beans, Peas, Lentils and Chickpeas Only)

**USE INSTRUCTIONS:** This product may be applied over the top of dry beans, peas, lentils and chickpeas prior to harvest. Apply up to 1 quart of this product per acre in dry beans, or up to 3 quarts per acre in dry peas, lentils, and chickpeas, in 3 to 20 gallons of water per acre at the hard dough stage of the legume seed (30 percent grain moisture or less).

**PRECAUTIONS, RESTRICTIONS:** Apply at least 7 days prior to harvest. Only one preharvest application may be made per year. Do not combine a preharvest spray with spot treatment on the same crop area. Observe at least a 30-day plant-back interval between treatment and replanting of any crop not listed on this label. Do not feed treated vines and hay to livestock. Preharvest application on legumes grown for seed could result in a reduction in germination or vigor. Buyer and all users are responsible for any and all loss or damage in connection with the preharvest use of this product on legumes grown for seed. Do not treat cowpeas or field (feed) peas, since these crops are considered to be grown as livestock feed.

#### 9.10.7 Root and Tuber Vegetables

**LABELED CROPS:** Arracacha, Arrowroot, Chinese artichoke, Jerusalem artichoke, Beet (garden), Burdock, Canna, Carrot, Cassava (bitter and sweet), Celeriac, Chayote (root), Chervil (turnip-rooted), Chicory, Chufa, Dasheen (taro), Galangal, Ginger, Ginseng, Horseradish, Leren, Kava (turnip-rooted), Parsley (turnip-rooted), Parsnip, Potato, Radish, Oriental radish, Rutabaga, Salsify, Black salsify, Spanish salsify, Skirret, Sweet potato, Tanier, Turmeric, Turnip, Wasabi, Yacon, Yam bean, True yam

#### Directed Application (Non-Bearing Ginseng Only)

**USE INSTRUCTIONS:** This product may be applied for weed control in established non-bearing ginseng. Application may be made with boom equipment, CDA, a shielded sprayer, a wiper applicator, a hand-held or backpack wand, lance, or orchard gun. See additional use instructions for selective equipment in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Application must be made at least one year prior to harvest. Control the application so as not to allow any contact of this product with the ginseng plant. Droplets, mist, foam or splatter of the herbicide solution settling onto desirable vegetation may result in discoloration, stunting or destruction.

#### Wiper Applicator (Rutabagas Only)

**USE INSTRUCTIONS:** A wiper applicator may be used over the top of rutabagas for the control of tall weeds. See additional use instructions for wiper applicators in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Allow at least 14 days between application and harvest of rutabagas. Droplets, mist, foam or splatter of the herbicide solution settling onto desirable vegetation may result in discoloration, stunting or destruction.

#### 9.11 Miscellaneous Crops

**LABELED CROPS:** Aloe vera, Asparagus, Bamboo shoots, Globe artichoke, Okra, Peanut (ground nut), Pineapple, Strawberry, Sugar beet

**TYPES OF APPLICATION:** Those listed in Section 9.0 plus Weed Control, Site Preparation, Spot Treatment (Asparagus)

For use directions with Roundup Ready sugar beet, see the "ROUNDUP READY CROPS" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Avoid contact of this product with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops, as severe crop injury or destruction may result. When making preemergence and at-planting applications, application must be made before crop emergence to avoid severe crop injury. Apply before seed germination in coarse sandy soils to further minimize the risk of crop injury. In crops with vines, make hooded sprayer, shielded sprayer and wiper applicator treatments in row middles prior to vine development, otherwise severe injury or destruction may result. Unless otherwise specified in this product's labeling, treatment using selective equipment including wiper applicators and hooded sprayers must be made at least 14 days prior to harvest. Post-harvest or fallow applications must be made at least 30 days prior to planting any crop not listed on this label. See additional information in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

#### Weed Control, Site Preparation

**USE INSTRUCTIONS:** This product may be applied for weed control or for site preparation prior to planting or transplanting crops listed in this section.

**PRECAUTIONS, RESTRICTIONS:** This product could cause crop injury when applied prior to transplanting or direct-seeding crops into plastic mulch. Remove residues of this product from the plastic prior to planting with a single 0.5-inch application of water, either by natural rainfall or by irrigation. Ensure that the wash water flushes off the plastic mulch and does not enter transplant holes. Allow at least 21 days between residue removal and transplanting. Application of this product at crop emergence will result in injury or death to emerged seedlings.

Do not apply within a week before the first asparagus spears emerge. Do not feed or graze treated pineapple forage following application.

#### Spot Treatment (Asparagus)

**USE INSTRUCTIONS:** This product may be applied immediately after cutting, but prior to the emergence of new spears.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. Do not harvest within 5 days of treatment.

#### Post-Harvest (Asparagus)

**USE INSTRUCTIONS:** This product may be applied for weed control after the last harvest and all spears have been removed. If spears are allowed to re-grow, delay application until ferns have developed and make the application as a directed or shielded spray in order to avoid contact of the spray with ferns, stems or spears. See additional use instructions in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Direct contact of the spray with asparagus may result in serious crop injury.

### 10.0 TREE, VINE, AND SHRUB CROPS

**NOTE:** THIS SECTION GIVES DIRECTIONS THAT APPLY TO ALL TREE, VINE, AND SHRUB CROPS LISTED ALPHABETICALLY IN THE SECTIONS THAT FOLLOW. SEE THE INDIVIDUAL CROP SECTIONS FOR SPECIFIC INSTRUCTIONS, PREHARVEST INTERVALS, PRECAUTIONS AND RESTRICTIONS.

**TYPES OF APPLICATION:** Preplant (site preparation) Broadcast Sprays, Weed Control, Middles (in-between rows of trees, vines or bushes), Strips (within rows of trees, vines or bushes), Selective Equipment (shielded sprayers, wiper applicators), Directed Spray, Spot Treatment, Perennial Grass Suppression, Cut Stump)

This product may be applied using boom spray equipment, CDA, a shielded sprayer, a wiper applicator, a hand-held or backpack wand, lance, or orchard gun, unless prohibited in the specific crop sections that follow.

**USE INSTRUCTIONS:** This product may be applied in middles (in-between rows of trees or vines), strips (within rows of trees or vines), and for weed control or perennial grass suppression in established tree fruit and nut groves, orchards, berries, and vineyards. It may also be used for site preparation prior to planting or transplanting these crops. Apply 1 pint to 5 quarts per acre according to the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label. Use the higher rates in the given range when weeds are stressed, growing in dense populations or are greater than 12 inches tall. Repeat applications may be made up to a maximum of 10.6 quarts per acre per year. See the "PRODUCT INFORMATION" section of this label for more information on Maximum Application Rates.

**PRECAUTIONS, RESTRICTIONS:** Use extreme care to avoid contact of this herbicide solution, spray, drift or mist with foliage or green bark of trunk, branches, suckers, fruit or other parts of trees, canes and vines. Avoid application when recent pruning wounds or other mechanical injury has occurred. Contact of this product with other than matured brown bark can result in serious crop damage or destruction. Only shielded or directed sprayers may be used in crops with potential for crop contact, and then only where there is sufficient clearance. For application in strips (within rows of trees), only use selective equipment (directed spray, hooded sprayer, shielded sprayer, or wiper applicator) in order to minimize the potential for overspray or drift of this product onto the crop. For berry crops, hooded or shielded sprayers must be fully enclosed including top, sides, front and back. Only wiper applicators or shielded sprayers capable of preventing all contact with the crop may be used. See additional instructions and precautions in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

Allow a minimum of 3 days between application and transplanting. Middles (in-between rows)

**USE INSTRUCTIONS:** This product will control or suppress annual and perennial weeds and ground covers growing in-between rows of tree and vine crops listed on this label. If weeds are under drought stress, irrigate prior to application. Reduced weed control may result if weeds have been recently mowed at the time of application.

**TANK MIXTURES:** A tank mixture of this product with Goal 2XL may be applied for annual weed control in-between rows (middles) of citrus crops, tree fruits, tree nuts and vine crops when weeds are stressed or growing in dense populations. Application of 16 to 32 fluid ounces of this product per acre plus 3 to 12 fluid ounces of Goal 2XL per acre will control annual weeds with a maximum height or length of 6 inches, including crabgrass, common groundsel, junglerice, common lambsquarters, redroot pigweed, London rocket, common ryegrass, shepherd's-purse, annual sowthistle, filaree (suppression),

horseweed/marestail (*Conyza canadensis*), stinging nettle and common purslane (suppression). This

tank mixture will also control common cheeseweed (malva) or hairy fleabane (*Conyza bonariensis*) with a maximum height or length of 3 inches. Read and follow all labels and directions for use of all products being used in the tank mixture.

This product may also be applied to row middles in tank mixtures with the following products. Ensure that the specific product being used is labeled for application to the crop to be treated. Read and follow label directions of all products in the tank mixture.

[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use in middles (in-between rows) of tree, vine and shrub crops:

bromacil, diuron, napropamide, norflurazon, oryzalin, oxyfluorfen, pendimethalin, simazine

Devrinol 50-DF, Direx 4L, Goal 2XL, Karmex DF, Karmex II DF, Prowl, Princep Caliber 90, Simazine 4L, Simazine 80W, Sim-Trol 4L, Solicam DF, Surflan AS, Surflan 75W]

Strips (within rows)

**TANK MIXTURES:** This product may be applied within rows of tree or vine crops in tank mixtures with the following products. Ensure that the specific product being used is labeled for this use and with the crop



being grown. Read and follow label directions of all products in the tank mixture.

[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use in strips (in rows) of tree, vine and shrub crops:

bromacil, diuron, napropamide, norflurazon, oryzalin, oxyfluorfen, pendimethalin, simazine

Devrinol 50-DF, Direx 4L, Goal 2XL, Karmex DF, Karmex II DF, Prowl, Princep Caliber 90, Simazine 4L, Simazine 80W, Sim-Trol 4L, Solicam DF, Surflan AS, Surflan 75W]

**PRECAUTIONS, RESTRICTIONS:** Do not apply these tank mixtures in Puerto Rico. Refer to the individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

#### Perennial Grass Suppression

This product will suppress perennial grasses such as bahiagrass, bermudagrass, tall fescue, orchardgrass, Kentucky bluegrass, and quackgrass that are grown as ground covers in tree and vine crops.

For suppression of tall fescue, fine fescue, orchardgrass and quackgrass, apply 8 fluid ounces of this product in 10 to 20 gallons of water per acre.

For suppression of Kentucky bluegrass covers, apply 6 fluid ounces of this product per acre. Do not add ammonium sulfate.

For best results, mow cool-season grass covers in the spring to even their height and apply this product 3 to 4 days after mowing.

For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 6 fluid ounces of this product in 10 to 25 gallons of water per acre. Apply 1 to 2 weeks after full green-up or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence.

For suppression up to 120 days, apply 4 fluid ounces of this product per acre, followed by an application of 2 to 4 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

For burndown of bermudagrass, apply 1 to 2 quarts of this product in 3 to 20 gallons of water per acre. Use this treatment only if reduction of the bermudagrass stand can be tolerated. When burndown is required prior to harvest, apply at least 21 days prior to harvest to allow sufficient time for burndown to occur.

For suppression of bermudagrass, apply 6 to 16 fluid ounces of this product per acre east of the Rocky Mountains and 16 fluid ounces of this product per acre west of the Rocky Mountains in a spray volume of 3 to 20 gallons per acre, no sooner than 1 to 2 weeks after full green-up. If the bermudagrass is mowed prior to application, maintain a minimum of 3 inches in height. Sequential applications may be made when re-growth occurs and bermudagrass injury and stand reduction can be tolerated. East of the Rocky Mountains, use 6 to 10 fluid ounces of this product per acre in shaded conditions or where a lesser degree of suppression is desired.

#### Cut Stump (Tree Crops)

**USE INSTRUCTIONS:** Application of this product to freshly cut tree stumps may be made during site preparation or site renovation prior to transplanting tree crops. This product will control re-growth of cut stumps and re-sprouts of many types of tree species, some of which are listed below.

**Citrus Trees:** Calamondin, Chironja, Citron, Citrus hybrids, Grapefruit, Kumquat, Lemon, Lime, Mandarin (Tangerine), Orange (all), Pummelo, Tangelo (Ugli), Tangor

**Fruit Trees:** Apple, Apricot, Cherry (sweet, sour), Crabapple, Loquat, Mayhaw, Nectarine, Olive, Peach, Pear, Plum/Prune (all), Quince

**Nut Trees:** Almond, Beechnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (hazelnut), Hickory Nut, Macadamia, Pecan, Pistachio, Walnut (black, English)

Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50- to 100-percent solution of this product to the freshly

cut surface immediately after cutting. Delays in application can result in reduced performance. For best results, make application during periods of active growth and full leaf expansion.

**PRECAUTIONS, RESTRICTIONS:** DO NOT MAKE CUT STUMP APPLICATION WHEN THE ROOTS OF ADJACENT DESIRABLE TREES MAY BE GRAFTED TO THE ROOTS OF THE CUT STUMP. INJURY RESULTING FROM ROOT GRAFTING MAY OCCUR IN ADJACENT TREES. Some sprouts, stems, or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems/trees when one or more trees sharing common roots are treated.

#### 10.1 Berry Crops

**LABELED CROPS:** Blackberry (including bingleberry, black satin berry, boysenberry, Cherokee

blackberry, chesterberry, Cheyenne blackberry, coryberry, darrowberry, dewberry, Dirksen thornless berry, Himalayaberry, hullberry, juneberry, lavacaberry, lowberry, lucretiaberry, marionberry, nectarberry, olallieberry, Oregon evergreen berry, phenomenal berry, rangeberry, ravenberry, rossberry, Shawnee blackberry, and youngberry), Blueberry, Cranberry, Currant, Elderberry, Gooseberry, Huckleberry, Loganberry, , Salal. [Optional Crop: Raspberry (black, red)]

**TYPES OF APPLICATION:** Those listed in Section 10.0, plus Spot Treatment in Cranberry Production, Post-Harvest in Cranberry Production

**PRECAUTIONS, RESTRICTIONS:** To avoid damage, herbicide spray must not be allowed to contact desirable vegetation, including green shoots, canes, or foliage. Allow a minimum of 30 days between last application and harvest of cranberries. Allow a minimum of 14 days between last application and harvest of other berry crops.

##### Spot Treatment in Cranberry Production

**USE INSTRUCTIONS:** Spot treatment may be used to control weeds growing in dry ditches (interior and perimeter) of cranberry production areas. A hand-held sprayer or other appropriate application equipment listed in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label may be used. Drop water level to remove standing water in ditches prior to application. With a hand-held sprayer, use a 1 to 2-percent solution of this product, and spray adequately to wet the vegetation only; do not spray to the point of run-off.

**PRECAUTIONS, RESTRICTIONS:** To achieve maximum weed control in treatment of dry ditches after water drawdown, allow 2 or more days after treatment before reintroduction of water. Apply this product within 1 day after drawdown to ensure application to actively growing weeds. Allow a minimum of 30 days between last application and harvest of cranberries. Do not apply by air. Do not apply directly to water. Use nozzles that emit medium to large-sized droplets in order to minimize spray drift and avoid crop injury.

##### Post-Harvest Treatments in Cranberry Production

**USE INSTRUCTIONS:** Application of this product may be made after the harvest of cranberries to control weeds growing in the field. Apply this product to vines that appear dormant (after they have turned red). Hand-held sprayers, wiper applicators, or other appropriate application equipment listed in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label may be used for this use. With hand-held sprayers, use a 0.5 to 1-percent solution of this product and spray adequately to wet the vegetation only; do not spray to the point of run-off. With hand-held boom sprayers, apply 2 to 4 quarts of this product per acre.

**PRECAUTIONS, RESTRICTIONS:** Apply this product only after cranberries have been harvested. Do not treat more than 10 percent of the total bog. Allow a minimum of 6 months between last application and next harvest of cranberries. Do not apply by air. Do not apply directly to water. Even though vines appear dormant, contact of the herbicide solution with desirable vegetation may result in damage or severe plant injury. Cranberry plants that are directly sprayed may be killed.

## 10.2 Citrus

**LABELED CROPS:** Calamondin, Chironja, Citron, Citrus Hybrids, Grapefruit, Kumquat, Lemon, Lime, Mandarin (tangerine), Orange (all), Pummelo, Satsuma Mandarin, Tangelo (ugli), Tangor

**TYPES OF APPLICATION:** Those listed in Section 10.0

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 1 day between last application and harvest in citrus crops. For citron groves, apply as a directed spray only.

**USE INSTRUCTIONS:** The following use instructions pertain to application in Florida and Texas only.

For burndown or control of the weeds listed below, apply this product at the specified rate in 3 to 30 gallons of water per acre. Where weed foliage is dense, use 10 to 30 gallons of water per acre.

For goatweed, apply 2 to 3 quarts of this product in 20 to 30 gallons of water per acre when plants are actively growing. Use 2 quarts per acre when plants are less than 8 inches tall, and 3 quarts per acre when plants are greater than 8 inches tall. If goatweed is greater than 8 inches tall, use of this product in a tank mixture with Krovar 1 or Karmex may improve weed control. Refer to the individual product labels for a listing of specific crops, rates, geographic restrictions and precautionary statements.

Perennial weeds:

S = Suppression

B = Burndown

PC = Partial control

C = Control

TOPDOG 41% PLUS RATE PER ACRE				
WEED SPECIES	1 QT	2 QT	3 QT	5 QT
Bermudagrass	B	--	PC	C
Guineagrass				
Texas and Florida Ridge	B	C	C	C
Florida Flatwoods	--	B	C	C
Paragrass	B	C	C	C
Torpedograss	S	--	PC	C

## 10.3 Miscellaneous Tree Food Crops

**LABELED CROPS:** Cactus (fruit and pads), Palm (heart, leaves), Palm (oil)

**TYPES OF APPLICATION:** Those listed in Section 10.0

## 10.4 Non-Food Tree Crops

**LABELED CROPS:** Pine, Poplar, Eucalyptus, Christmas trees, All other non-food tree crops

**TYPES OF APPLICATION:** Those listed in Section 10.0

**NOTE:** Unless otherwise directed, do not apply this product as an over-the-top broadcast spray in plantations or tree crops.

**Site preparation**

**USE INSTRUCTIONS:** This product may be used for weed control prior to planting non-food tree crops.

**PRECAUTIONS, RESTRICTIONS:** Protect non-target plants from being sprayed with this product during site preparation application.

**Directed Spray, Spot Treatment, Wiper Applicator**

**USE INSTRUCTIONS:** This product may be used as a post-directed spray and spot treatment or applied with a wiper applicator around established poplar, eucalyptus, Christmas trees and other non-food tree crops.

**PRECAUTIONS, RESTRICTIONS:** Avoid contact of spray, drift or mist of this product with foliage or green bark of established Christmas trees and other pine trees. Desirable plants may be protected from the spray solution by using shields or coverings made of impermeable materials.

## 10.5 Pome Fruit

**LABELED CROPS:** Apple, Crabapple, Loquat, Mayhaw, Pear (including oriental pear), Quince

**TYPES OF APPLICATION:** Those listed in Section 10.0

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 1 day between last application and harvest in pome fruit crops.

#### 10.6 Stone Fruit

**LABELED CROPS:** Apricot, Cherry (sweet, tart), Nectarine, Olive, Peach, Plum/Prune (all types), Plumcot

**TYPES OF APPLICATION:** Those listed in Section 10.0. For olive groves, apply only as a directed spray.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 17 days between last application and harvest in stone fruit crops.

Remove suckers and low-hanging limbs at least 10 days prior to application. Avoid application near trees with recent pruning wounds or other mechanical injury. Apply only near trees that have been planted in the orchard for 2 or more years. **USE EXTREME CARE TO ENSURE THAT NO PART OF THE PEACH TREE IS CONTACTED WITH OVERSPRAY OR DRIFT OF THIS PRODUCT.**

#### 10.7 Tree Nuts

**LABELED CROPS:** Almond, Beechnut, Betelnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Coconut, Filbert (hazelnut), Hickory nut, Macadamia, Pecan, Pine nut, Pistachio, Walnut (black, English)

**TYPES OF APPLICATION:** Those listed in Section 10.0

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 3 days between last application and harvest of tree nuts, except coconut. Allow 14 days between application and harvest of coconut.

#### 10.8 Tropical and Subtropical Trees and Fruits

**LABELED CROPS:** Ambarella, Atemoya, Avocado, Banana, Barbados cherry (acerola), Biriba, Blimbe, Breadfruit, Cacao (cocoa) bean, Canistel, Carambola (starfruit), Cherimoya, Coffee, Custard apple, Dates, Durian, Feijoa, Figs, Governor's plum, Guava, Ilaça, Imbe, Imbu, Jaboticaba, Jackfruit, Longan, Lychee, Mamey apple, Mango, Mangosteen, Marmaladebox (genip), Mountain papaya, Noni (Indian Mulberry), Papaya, Pawpaw, Plantain, Persimmon, Pomegranate, Pulasan, Rambutan, Rose apple, Sapodilla, Sapote (black, mamey, white), Spanish lime, Soursop, Star apple, Sugar apple, Surinam cherry, Tamarind, Tea, Ti (roots and leaves), Wax jambu

**TYPES OF APPLICATION:** Those listed in Section 10.0, and as described below as a Bananacide (Bananas Only)

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 1 day between last application and harvest in banana, coffee, guava, papaya, and plantain crops. Allow a minimum of 14 days between last application and harvest for any other tropical or subtropical tree fruit listed. In coffee and banana, delay application 3 months after transplanting to allow the new coffee or banana plant to become established.

#### Bananacide (Banana Only)

**USE INSTRUCTIONS:** This product may be used to destroy banana plants infected with the Banana Bunchy Top Virus, as well as non-infected banana plants in order to establish disease free buffers around plantations. Remove all fruit from the plants within the treatment area prior to treatment. Inject 1/25 of a fluid ounce (1 milliliter) of this concentrated product (undiluted) for every 2 to 3 inches of pseudostem diameter of the banana plant. Make the injection at least one foot above the ground, except for very small plants, which can be injected vertically into the top. Any subsequent re-growth must also be destroyed. Mechanically destroy all plants and mats (or units) within a 4-foot radius around a treated mat.

For control of the Banana Bunchy Top Virus, it is critical that the grower follow a strict control program involving monitoring for diseased plants, spraying to control the aphid vector, and destruction of all infected mats (or units). An infected plant may not show symptoms of the banana bunchy top virus for up to 125 days, therefore it is critical that the entire mat (or unit) containing the diseased plant be destroyed immediately.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 0.5 fluid ounce (15 milliliters) of this product per mat (or unit). Remove all fruit from plants and mats (or units) prior to treatment. Do not harvest any fruit or plant materials from treated mats (or units) following injection. Do not allow livestock to consume treated plant materials. Following transplant of new banana plants into treated areas, allow plants to become established for 3 months before applying this product for weed control.

#### 10.9 Vine Crops

LABELED CROPS: Grapes (raisin, table, wine) Hops, Kiwi, Passion fruit TYPES OF APPLICATION: Those listed in Section 10.0

USE INSTRUCTIONS: Apply this product for weed control only when green shoots, canes or foliage are not in the spray zone.

In the northeast and Great Lakes regions, apply this product in grape vineyards prior to the end of the bloom stage in order to avoid crop injury, or apply using a shielded sprayer or wiper applicator.

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 14 days between last application and harvest of vine crops. Do not use selective equipment in kiwi.

#### 11.0 PASTURE GRASSES, FORAGE LEGUMES AND RANGELANDS

USE INSTRUCTIONS: Refer to the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label for application rates of this product for specific weeds. When applied as directed, this product will control those annual and perennial grasses and broadleaf weeds. Application rates specified on this label for the control of tough weeds, or those specified on separate supplemental labeling for this product, supersede rates listed in the "ANNUAL WEEDS RATE SECTION", "PERENNIAL WEEDS RATE SECTION" and "WOODY BRUSH AND TREES RATE SECTION" of this label. Additional information on the control of tough weeds can be found in Fact Sheets published for this product.

#### 11.1 Alfalfa, Clover, and Other Forage Legumes

LABELED CROPS: Alfalfa, Clover, Kenaf, Kudzu, Lespedeza, Leucaena, Lupin, Sainfoin, Trefoil, Velvet bean, Vetch (all types)

TYPES OF APPLICATION: Preplant, At-Planting, Preemergence, Spot Treatment, Wiper Applicator, Preharvest (except Kenaf and Leucaena), Stand Removal

For use directions with Roundup Ready alfalfa, see the "ROUNDUP READY CROPS" section of this label.

Preplant, At-Planting, Preemergence

USE INSTRUCTIONS: This product may be applied before, during or after planting crops listed in this section, but prior to crop emergence.

PRECAUTIONS, RESTRICTIONS: Remove domestic livestock before application. Spot Treatment, Wiper Applicator

USE INSTRUCTIONS: This product may be applied as a spot treatment or over the top of crops listed in this section with a wiper applicator. See additional instructions on the use of wiper applicators in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label. Application may be repeated in the same area at 30-day intervals.

PRECAUTIONS, RESTRICTIONS: For spot treatment and use with a wiper applicator, apply in areas where the movement of domestic livestock can be controlled. Remove domestic livestock before application and wait 3 days after application before grazing livestock or harvesting. Do not treat more than 10 percent of the total field area at any one time.

Preharvest (Except Kenaf and Leucaena), Stand Removal

USE INSTRUCTIONS: This product may be applied as a broadcast application prior to harvest (except in kenaf and leucaena) in declining stands or any stand where severe crop injury or destruction is acceptable, or to remove established stands of any forage legumes listed in this section. Application may be made at any time of the year to control annual and perennial weeds, including quackgrass. For control of quackgrass, apply in the spring, late summer or fall when quackgrass is actively growing. Treatment for quackgrass must be followed by deep tillage for complete control. If the crop is to be harvested or grazed by livestock, use up to a maximum of 2 quarts per acre in alfalfa and up to 3 pints per acre in all other legumes listed on this label. For complete removal of established stands of clover, it may be necessary to use a higher application rate, as listed in the "PERENNIAL WEEDS RATE SECTION" of this label.

PRECAUTIONS, RESTRICTIONS: This application may destroy an alfalfa stand, and may severely

injure or destroy other crops such as clover. Remove domestic livestock before application. Make only one application to an existing stand of crop per year. The treated crop and weeds can be harvested and fed to livestock according to the application rates and intervals defined below. For application rates higher than those listed here, do not harvest for livestock feed or allow livestock to graze on treated foliage.

Crop	Maximum Single Preharvest Application Rate (Per acre)	Minimum Interval Between Application and Harvest or Livestock Grazing
Alfalfa	2 quarts	36 hours
All other legumes listed	3 Pints	3 days

Crops listed on this label may be planted into the treated area at any time; all other crops may be planted 30 days after application. Preharvest application on alfalfa grown for seed could result in a reduction in germination or vigor. Buyer and all users are responsible for any and all loss or damage in connection with the preharvest use of this product on alfalfa grown for seed.

#### 11.2 Conservation Reserve Program (CRP)

**TYPES OF APPLICATION:** Renovation (Rotating Out of CRP), Site Preparation, Postemergence Weed Control in Dormant CRP Grasses, Wiper Applicator

Renovation (Rotating Out of CRP), Site Preparation

**USE INSTRUCTIONS:** This product may be used to prepare CRP land for crop production. Refer to Federal, state or local use guides for CRP renovation information.

**PRECAUTIONS, RESTRICTIONS:** Crops listed on this label may be planted into the treated area at any time; all other crops may be planted 30 days after application.

Postemergence Weed Control in Dormant CRP Grasses, Wiper Applicator

**USE INSTRUCTIONS:** Apply this product to suppress competitive growth and seed production of undesirable vegetation on CRP land. Application may be made using a wiper applicator to control tall weeds or as a broadcast or spot treatment to dormant CRP grasses. For selective weed control using broadcast spray equipment, apply 12 to 16 fluid ounces of this product per acre in early spring before desirable CRP grasses, such as crested and tall wheatgrass, break dormancy and initiate green growth. Late fall application can be made after desirable perennial grasses have reached dormancy.

**PRECAUTIONS, RESTRICTIONS:** Some stunting of CRP perennial grasses will occur if broadcast application is made when plants are not dormant. No waiting period is required between application and grazing or harvesting for feed. Do not apply more than 3 quarts of this product per acre per year onto CRP land.

#### 11.3 Grass Seed and Sod Production

**LABELED CROPS:** Any grass (Gramineae family), except Corn, Sorghum, Sugarcane and those listed in the "CEREAL AND GRAIN CROPS" section of this label

**TYPES OF APPLICATION:** Preplant, At-Planting, Preemergence, Renovation, Removal of Established Stand, Site Preparation, Shielded Sprayer, Wiper Applicator, Spot Treatment, Creating Rows in Annual Ryegrass

Preplant, At-Planting, Preemergence, Renovation, Removal of Established Stand, Site Preparation

**USE INSTRUCTIONS:** This product controls most existing vegetation for purposes of renovating turf or forage grass seed production areas, or for establishing turfgrass grown for sod. It may be used to destroy undesirable grass vegetation when production fields are converted to alternate species or crops. Apply before, during, or after planting, or for renovation purposes. For maximum control of existing vegetation, delay planting to determine if any re-growth of underground plant parts occurs. Where existing vegetation is growing under mowed turf management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the herbicide spray. Where repeat treatments are necessary, sufficient re-growth must be attained prior to application. For warm-season

grasses, such as bermudagrass, summer or fall application provides the best control. Broadcast equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested. Application rates of up to 5 quarts per acre may be used to totally remove established stands of tough to kill grass species.

**PRECAUTIONS, RESTRICTIONS:** Do not disturb soil or underground plant parts before treatment. Delay tillage or renovation techniques, including vertical mowing, coring or slicing, for 7 days after application to allow for herbicide translocation into underground plant parts. If application rate is 3 quarts per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 3 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting. Crops listed on this label may be planted into the treated area at any time; all other crops may be planted 30 days after application. Application must be made prior to the crop emergence in order to avoid crop injury.

#### Shielded Sprayer

**USE INSTRUCTIONS:** Apply 1 to 3 quarts of this product in 10 to 20 gallons of water per acre to control weeds between grass seed rows. Uniform planting in straight rows will aid shielded sprayer application. Best results are obtained when the grass seed crop is small enough to easily pass by or through the protective shields. See additional instructions on the use of shielded sprayers in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator.

#### Wiper Applicator

**USE INSTRUCTIONS:** This product may be applied over the top of desirable grasses using a wiper applicator for the control of tall weeds. See additional instructions on the use of wiper applicators in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Droplets, mist, foam or splatter of the herbicide solution settling onto desirable vegetation may result in discoloration, stunting or destruction. Such damage shall be the sole responsibility of the applicator.

#### Spot Treatment

**USE INSTRUCTIONS:** Apply a 1 to 1.5-percent solution of this product using a hand-held sprayer to control weeds within established vegetation prior to heading of grasses grown for seed or to control sod remnants or other unwanted vegetation after sod is harvested.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area. Crop sprayed in treated area will be killed. Take care not to spray or allow spray to drift outside the target area to avoid unwanted crop destruction.

#### Creating Rows in Annual Ryegrass

**USE INSTRUCTIONS:** Apply 16 to 32 fluid ounces of this product per acre. Best results are obtained when application is made before ryegrass reaches 6 inches in height. Use the higher rate within this range when the ryegrass is greater than 6 inches in height. Set nozzle heights to allow the establishment of the desired row spacing. Use low-pressure nozzles, or drop nozzles designed to target the application over a narrow band.

**PRECAUTIONS, RESTRICTIONS:** Take care not to spray or allow droplets, spray fines, or drift to settle outside the treatment area to avoid unwanted crop destruction.

Grower assumes all responsibility for crop losses from misapplication.

#### 11.4 Pastures

**LABELLED CROPS:** Any grass (Gramineae family) except Corn, Sorghum, Sugarcane and those listed in the "CEREAL AND GRAIN CROPS" section of this label, but including Bahiagrass, Bermudagrass, Bluegrass, Bromegrass, Fescue, Guinea grass, Kikuyu grass, Orchardgrass, Pangola grass, Ryegrass, Timothy, Wheatgrass

**TYPES OF APPLICATION:** Preplant, Preemergence, Pasture Renovation, Spot Treatment, Wiper

#### Applicator, Postemergence Weed Control (Broadcast Treatment)

##### Preplant, Preemergence, Pasture Renovation

USE INSTRUCTIONS: This product may be applied for weed control prior to planting or emergence of forage grasses. This product may also be used to control perennial pasture species listed on this label prior to re-planting.

PRECAUTIONS, RESTRICTIONS: If application rates total 3 quarts of this product per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 3 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting. Crops listed on this label may be planted into the treated area at any time; all other crops may be planted 30 days after application.

##### Spot Treatment, Wiper Applicator

USE INSTRUCTIONS: This product may be applied in pastures as a spot treatment or over the top of desired grasses using a wiper applicator to control tall weeds. Application may be repeated in the same area at 30-day intervals. See additional instructions on the use of wiper applicators in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

PRECAUTIONS, RESTRICTIONS: For spot treatment or use with a wiper applicator at rates of 3 quarts of this product per acre or less, the entire field or any portion of it may be treated. For spot treatment or wiper applicator use at rates above 3 quarts of this product per acre, no more than 10 percent of the field may be treated at any one time. To achieve maximum performance, remove domestic livestock before application and wait 7 days after application before grazing or harvesting for feed.

#### Postemergence Weed Control (Broadcast Treatments)

USE INSTRUCTIONS: This product may be applied to pastures to suppress competitive growth and seed production of annual weeds and undesirable vegetation. For selective weed control using broadcast spray equipment, apply 12 to 16 fluid ounces of this product per acre in early spring before desirable perennial grasses break dormancy and initiate green growth. Higher application rates to control tough-to-control weeds may be used; however, injury will occur if perennial grasses are no longer dormant. Late fall application can be made after perennial grasses have reached dormancy. *sprayed*

PRECAUTIONS, RESTRICTIONS: Some stunting of perennial grasses will occur if broadcast application is made when plants are not dormant. Higher application rates will cause stand reductions. No waiting period is required between application and grazing or harvesting for feed. Do not apply more than 3 quarts per acre per year onto pasture grasses except for renovation use described on this label. If replanting is needed due to severe stand reduction, wait at least 30 days after treatment prior to planting any crop not listed on this label. *sprayed*

#### 11.5 Rangelands

##### TYPES OF APPLICATION: Postemergence

USE INSTRUCTIONS: This product will control or suppress many annual weeds growing in perennial cool- and warm-season grass rangelands. Preventing viable seed production is critical to the successful control and invasion of annual grassy weeds in rangelands. Follow-up applications in sequential years can be used to eliminate most of the viable seeds. Delay grazing of treated areas to allow desirable perennials to grow, flower and re-seed in the treated area.

Apply 12 to 16 fluid ounces of this product to control or suppress many weeds, including downy brome, cheatgrass, cereal rye and jointed goatgrass in rangelands. Apply when most mature brome plants are in early flower and before the plants, including seedheads, turn color. Allowing for secondary weed flushes to occur in the spring following rain events further depletes the seed reserve and encourages perennial grass conversion on weedy sites. Apply in the fall to areas where spring moisture is usually limited and fall germination allows for good weed growth.

For medusahead, apply 16 fluid ounces of this product at the 3-leaf stage. Delaying application beyond this stage will result in reduced or unacceptable control. Controlled burning prior to application may be useful in eliminating the thatch layer produced by slowly decaying culms. Allow new growth to occur after burning before spraying. Repeat applications in subsequent years may be necessary to eliminate the seed bank before reestablishing desirable perennial grasses on medusahead-dominated rangeland.



**PRECAUTIONS, RESTRICTIONS:** Slight discoloration of the desirable grasses may occur, but they will re-green and re-grow under moist soil conditions as effects of this product wear off. Do not use ammonium sulfate when spraying rangeland grasses with this product. No waiting period between treatment and feeding or livestock grazing is required. Do not apply more than 3 quarts of this product per acre per year.

## 12.0 ROUNDUP READY CROPS

ROUNDUP READY CROPS CONTAIN A PATENTED GENE THAT PROVIDES TOLERANCE TO GLYPHOSATE, THE ACTIVE INGREDIENT IN THIS PRODUCT. THIS PRODUCT WILL CAUSE SEVERE CROP INJURY OR DESTRUCTION AND YIELD LOSS IF APPLIED TO CROPS THAT ARE NOT GLYPHOSATE TOLERANT. AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, OR ANY DESIRABLE PLANTS THAT DO NOT CONTAIN A GLYPHOSATE TOLERANCE GENE, AS SEVERE PLANT INJURY OR DESTRUCTION WILL RESULT. Information on Roundup Ready crops may be obtained from your seed supplier or Monsanto representative. Roundup Ready crops must be purchased from an authorized licensed seed supplier. The instructions in the sections that follow, or those published separately on supplemental labeling for this product include all applications of this product that can be made onto the specified Roundup Ready crop during the complete cropping season. DO NOT combine these treatment instructions with those for crops in the "ANNUAL AND PERENNIAL CROPS" and "PASTURE GRASSES, FORAGE LEGUMES AND RANGELANDS" sections of this label that do not contain a glyphosate tolerance gene.

**NOTE:** Roundup Ready seed, and the method of selectively controlling weeds in a Roundup Ready crop, are protected under several U.S. Patents, including 5,352,605 and 5,633,435. A license to use Roundup Ready seed must be obtained prior to use. Monsanto retains ownership of the gene and process technologies, and the Purchaser of the seed receives the right to use the licensed genes and technologies subject to the limited use license conditions. Seed containing a Roundup Ready trait cannot be used for research and demonstration, reverse engineering or in connection with herbicide registration. Progeny seed containing the Roundup Ready trait cannot be saved for replanting or transferred to others for replanting. Contact your Authorized Monsanto Retailer for information on obtaining a limited use license.

**USE INSTRUCTIONS:** Refer to "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label for application rates for specific weeds. When applied as directed, this product will control the annual and perennial grasses and broadleaf weeds listed. Observe the maximum application rates and crop stage timings specified for individual Roundup Ready crops in the sections that follow.

**Ground broadcast application** - Apply this product in 5 to 20 gallons of spray solution per acre.

Carefully select proper nozzle and spray pressure to avoid spraying a fine mist. For best results with ground application equipment, use flat spray nozzles. Check for even distribution of spray droplets.

**Aerial application**- All treatments described in this section may be made using aerial application equipment, where appropriate, provided that the applicator complies with the precautions and restrictions specified on this label and on all supplemental labeling published separately for this product. Apply this product in 3 to 15 gallons of water per acre. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for important information on aerial application and procedures for avoiding spray drift that may cause injury to any vegetation not intended for treatment. Use of appropriate buffer zones will help prevent injury to adjacent vegetation.

**ATTENTION: AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS THAT DO NOT CONTAIN A GLYPHOSATE TOLERANCE GENE.**

**TANK MIXTURE:** Tank mixtures of this product with other herbicides, insecticides, fungicides, micronutrients or foliar fertilizers could result in reduced weed control or injury to Roundup Ready crops when applied over the top of Roundup Ready crops. Read all labels for products used in the tank mixture prior to use to determine the potential for crop injury. Always read and follow label directions for all products in the tank mixture. Use all products according to rates and timing specified on the product labeling. Always predetermine the compatibility of tank-mix products together in the carrier by mixing

small proportional quantities in advance. REPAR CORPORATION has not tested all tank-mix product formulations for compatibility, antagonism or product performance. Buyer and all users are responsible for any and all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not specifically identified on this label or in separate supplemental labeling or Fact Sheets for this product. See the "MIXING" section of this label for more information on tank mixtures.

Unless otherwise directed, nonionic surfactant may be added to the spray solution for application to Roundup Ready crops. The addition of certain surfactants to this product may result in some crop response including leaf speckling or leaf necrosis due to the surfactant added to the spray mixture. Refer to the individual Roundup Ready crop sections that follow, or separately published supplemental labeling, for additional precautions or restrictions. Refer to the "MIXING" section of this label for additional information on the use of surfactants. Ammonium sulfate may be added to spray solutions of this product for application to Roundup Ready crops. Refer to the "MIXING" section for instructions on the use of ammonium sulfate.

**Sprayer Preparation:** It is important that sprayer and mixing equipment be clean and free of pesticide residue before being used to apply this product. Follow the cleaning procedures specified on the label of the product(s) previously used. **THOROUGHLY CLEAN THE SPRAY TANK AND ALL LINES AND FILTERS TO ELIMINATE POTENTIAL CONTAMINATION FROM OTHER HERBICIDES PRIOR TO MIXING AND APPLYING THIS PRODUCT.**

**NOTE:** The following use directions are based on a clean start at planting by using a burndown application or tillage to control existing weeds before crop emergence. In no-till and stale seedbed systems, apply this product as a preplant burn-down treatment to control existing weeds prior to crop emergence. Some weeds, such as black nightshade, broadleaf signalgrass, sicklepod, Texas panicum, sandbur, annual morningglory, woolly cupgrass, shattercane, wild proso millet, burcumber, and giant ragweed with multiple germination times, or suppressed (stunted) weeds may require a second application of this product for complete control. Make second application after some re-growth has occurred and at least 10 days after a previous application of this product.

Application rates of this product specified on this label for the control of tough weeds, or those specified on separate supplemental labeling for this product, supersede rates in the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label. Additional information on the control of tough weeds can be found on Fact Sheets published for this product.

**PRECAUTIONS, RESTRICTIONS:** Observe the maximum application rates stated throughout this label. Maximum application rates apply to the use of this product combined with the use of any and all other herbicides containing glyphosate as the active ingredient, whether applied separately or as mixtures. Calculate the application rates (glyphosate acid equivalents) and ensure that the total use of this and other glyphosate-containing products does not exceed the stated maximum rate. See the "PRODUCT INFORMATION" section of this label for more information on Maximum Application Rates.

#### 12.1 Roundup Ready Alfalfa

**TYPES OF APPLICATION:** Preplant, At-planting, Preemergence, Postemergence (In-crop)

**USE INSTRUCTIONS:** Refer to the following table for the maximum application rates of this product.

Maximum Application Rates	
Combined total per year for all applications, including preplant During year of establishment	8 quarts per acre
Combined total per year for in-crop applications on newly Established and establishment stands	6 quarts per acre

**PRECAUTIONS AND RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for precautionary instructions regarding the use of this product in Roundup Ready crops. See the "PRODUCT INFORMATION" section of this label for more information on Maximum Application Rates.

**Preplant, At-Planting, Preemergence**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting Roundup Ready alfalfa.

**Postemergence (In-crop)**

**USE INSTRUCTIONS:** This product may be applied over the top of Roundup Ready alfalfa (in-crop) from emergence until 5 days prior to cutting. To maximize crop yield and quality potential of the forage and hay, apply this product after weeds have emerged but before alfalfa growth or re-growth interferes with spray coverage of the target weeds.

Refer to the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label for application rates for specific weeds. When applied as directed, this product will control these annual and perennial grasses and broadleaf weeds. This product will also suppress the parasitic weed Dodder (*Cuscuta* spp.) in Roundup Ready alfalfa. Repeat applications may be necessary for complete control.

**New Stand Establishment (Seeding Year)**-Due to the biology and breeding constraints of alfalfa, up to 10 percent of the seedlings may not contain a Roundup Ready gene and will not survive after the first application of this product. To eliminate the undesirable effects of stand gaps created by this loss of plants, make a single application of at least 1 quart of this product per acre at or before the 4-trifoliolate growth stage. Refer to the following tables for application rates during stand establishment (seeding year).

<b>NEW STAND ESTABLISHMENT (Seeding Year)</b> Application Rate	
<b>Prior to First Cutting</b> From emergence up to 4 trifoliolate leaves	1 to 2 quarts per acre
<b>From 5 trifoliolate leaves up to 5 days before first Cutting</b>	Up to 2 quarts per acre
<b>After First Cutting</b> In-crop application, per cutting, up to 5 days before cutting	Up to 2 quarts per acre

**Established Stands**-Refer to the following table for directions and maximum application rates for in-crop applications to established stands of alfalfa (non-seeding year).

<b>ESTABLISHED STAND (Non-Seeding Year)</b> Application Rates	
In-crop applications, per cutting, up to 5 days Before cutting	Up to 2 quarts per acre

**PRECAUTIONS, RESTRICTIONS:** Where Roundup Ready alfalfa is grown with a companion or cover crop, or is over-seeded with a second species, in-crop (over-the-top) application of this product will eliminate the non-glyphosate tolerant species. Do not exceed 2 quarts per acre for any single in-crop application of this product. Sequential applications of this product must be at least 7 days apart. The combined total per year for all in-crop applications in both newly established (seeding year) and established stands (non-seeding year) must not exceed 6 quarts per acre. Remove domestic livestock before application. Wait a minimum of 5 days after application before grazing, cutting and feeding of forage and hay.

**TANK MIXTURES:** This product may be tank-mixed with the products listed in following sections. Ensure

that the specific product being used is labeled for application to alfalfa. Read and follow label directions for all products in the tank mixture.

**New Stand Establishment (Seeding Year):** This product may be applied postemergence (in-crop) over the top of Roundup Ready alfalfa in the seeding year at up to 2 quarts per acre in a tank-mix with the following herbicides. Apply after weeds have emerged, but before the alfalfa growth or re-growth interferes with spray coverage of the target weeds.

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[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use on alfalfa:

clethodim, imazamox, imazethapyr, sethoxydim, quizalofop p-ethyl

Assure II, Poast, Prism, Pursuit, Raptor, SelectMAX]

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[Optional statement: Pursuit or Raptor applied to seedling alfalfa may result in a temporary reduction in growth. Do not include crop oil concentrate or methylated seed oil in tank mixtures of this product with Pursuit or Raptor as unsatisfactory crop injury may result.]

**Established Stands (Non-Seeding Year)**

This product may be applied postemergence (in-crop) over the top of established stands of Roundup Ready alfalfa in tank mixtures described below according to the growing conditions of the crop.

**Actively growing alfalfa:** For control of emerged grasses and broadleaf weeds when alfalfa is actively growing, this product may be applied at up to 44 fluid ounces per acre in a tank mixture with the following herbicides.

[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use on alfalfa:

clethodim, imazamox, imazethapyr, sethoxydim, quizalofop p-ethyl Assure II, Poast, Prism, Pursuit, Raptor, SelectMAX]

[Optional statement: Do not include crop oil concentrate or methylated seed oil in tank mixtures of this product with Pursuit or Raptor as unsatisfactory crop injury may result.]

**Dormant alfalfa:** For control of emerged annual grasses and broadleaf weeds when alfalfa is dormant, this product may be applied at up to 44 fluid ounces per acre in a tank mixture with the following herbicides. Apply when the daily temperature remains above freezing.

[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use on alfalfa:

imazamox, imazethapyr, metribuzin, pronamide, propyzamide Kerb 50-W, Lexone, Pursuit, Raptor, Sencor]

[Optional statement: Do not include crop oil concentrate or methylated seed oil in tank mixtures of this product with Pursuit or Raptor as unsatisfactory crop injury may result.]

**PRECAUTIONS, RESTRICTIONS:** Tank mixtures of this product with other herbicides, insecticides, or fungicides may result in crop injury or reduced weed control. Do not apply to frozen or snow covered ground. Ensure that the specific product being used is labeled for application postemergence (in-crop) to alfalfa. Read and follow label directions of all products in the tank mixture. Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

## 12.2 Roundup Ready Canola (Spring Varieties)

Roundup Ready spring canola is defined as those Roundup Ready canola varieties that are seeded in the spring and harvested in the fall and do not enter a winter dormancy period.

**TYPES OF APPLICATION:** Preplant, At-Planting, Preemergence, Postemergence (In-crop)

**USE INSTRUCTIONS:** Refer to the following table for the maximum application rates for this product with spring varieties of Roundup Ready canola.

Maximum Application Rates	
Total of all Preplant, At-Planting, Preemergence Applications	2 quarts per acre
Total of all In-crop Applications from emergence to 6-Leaf Stage	1 quart per acre

PRECAUTIONS AND RESTRICTIONS: See the "ROUNDUP READY CROPS" section of this label for precautionary instructions regarding the use of this product in Roundup Ready crops. See the "PRODUCT INFORMATION" section of this label for more information on Maximum Application Rates.

Preplant, At-planting, Preemergence

USE INSTRUCTIONS: This product may be applied before, during or after planting Roundup Ready canola.

PRECAUTIONS, RESTRICTIONS: Maximum quantity of this product that may be applied for all preplant, at-planting and preemergence applications combined is 2 quarts per acre per season.

Postemergence (In-crop)

USE INSTRUCTIONS: This product may be applied postemergence to spring varieties of Roundup Ready canola from emergence through the 6-leaf stage of development. Application made during bolting or flowering could result in crop injury and yield loss. To maximize yield potential, eliminate competing weeds early.

Single Application - Apply 16 to 24 fluid ounces per acre no later than the 6-leaf stage for the control of annual weeds. Avoid overlapping applications, which could result in temporary yellowing, delayed flowering, and/or growth reduction. Similar crop injury could result when more than 16 fluid ounces per acre is applied after the 4-leaf stage.

Sequential Application - Apply 16 fluid ounces per acre to 1 to 3-leaf canola followed by a sequential application at a minimum interval of 10 days, but no later than the 6-leaf stage. Sequential application works best for control of early emerging annual weeds and perennial weeds such as Canada thistle and quackgrass, or when more than one application is needed for adequate weed control.

PRECAUTIONS, RESTRICTIONS: No more than two in-crop (over-the-top) broadcast applications may be made from crop emergence through the 6-leaf stage of development and the total in-crop application must not exceed 32 fluid ounces of this product per acre. Allow a minimum of 60 days between last application and canola harvest.

### 12.3 Roundup Ready Canola (Winter Varieties)

Roundup Ready winter canola is defined as those Roundup Ready canola varieties that are seeded in early fall and harvested the following spring or summer. Winter canola varieties are intended to enter a cold period dormancy in the winter.

TYPES OF APPLICATION: Preplant, At-Planting, Preemergence, Postemergence (In-crop)

USE INSTRUCTIONS: Refer to the following table for the maximum application rates of this product with winter varieties of Roundup Ready canola.

Maximum Application Rates	
Total of all Preplant, At-Planting, Preemergence Applications	2 quarts per acre
Total of all In-crop Applications from emergence to canopy Closure or prior to bolting in the spring	1 quart per acre

PRECAUTIONS, RESTRICTIONS: See the "ROUNDUP READY CROPS" section of this label for precautionary instructions regarding the use of this product in Roundup Ready crops. See the "PRODUCT INFORMATION" section of this label for more information on Maximum Application Rates.

#### Preplant, At-Planting, Preemergence

USE INSTRUCTIONS: This product may be applied before, during or after planting Roundup Ready canola.

#### Postemergence (In-crop)

USE INSTRUCTIONS: This product may be applied to winter varieties of Roundup Ready canola from emergence to canopy closure in the fall and prior to bolting in the spring. Application made during or after bolting could result in crop injury and yield loss. To maximize yield potential, eliminate competing weeds early

Some weeds with multiple germination times, or suppressed (stunted) weeds, or weeds that have overwintered may require a sequential application of this product for control. Make second application after some weed re-growth has occurred and at least 60 days after a previous application of this product.

Single Application-Apply 24 to 32 fluid ounces of this product per acre in the fall when weeds are small and actively growing. Use the higher rate within this range when weed densities are high, when weeds have overwintered or when weeds become large and well established. Application of greater than 24 fluid ounces per acre prior to the 6-leaf stage may result in reduced crop growth in the fall. Avoid spray overlaps. Spray overlaps could result in temporary yellowing and/or growth reduction.

Sequential Application-Apply 16 to 32 fluid ounces of this product per acre to 2-leaf or larger canola in the fall, followed by a sequential application at the same rate and at a minimum interval of 60 days, but before bolting in the spring. Sequential application works best for control of early emerging annual weeds and winter emerging weeds such as downy brome, jointed goatgrass and ryegrass, and for weeds that have overwintered. This product will control or suppress most perennial weeds. For some perennial weeds, sequential application may be required to reduce competition with the crop.

PRECAUTIONS, RESTRICTIONS: No more than two over-the-top broadcast applications may be made from crop emergence up to the onset of bolting, and the total in-crop application must not exceed 64 fluid ounces of this product per acre. Application of greater than 24 fluid ounces per acre prior to the 6-leaf stage could result in reduced crop growth in the fall. Allow a minimum of 60 days between last application and harvest of canola grain. No waiting period is required between application and open grazing of livestock.

#### 12.4 Corn Hybrids with Roundup Ready 2 Technology

Corn hybrids with Roundup Ready 2 Technology include Roundup Ready Corn 2 and seed products displaying the Roundup Ready 2 Technology logo.

TYPES OF APPLICATION: Preplant, At-Planting, Preemergence, Postemergence (In-crop), Spot

Treatment, Preharvest, Post-harvest

USE INSTRUCTIONS: Refer to the following table for maximum application rates of this product with corn

hybrids with Roundup Ready 2 Technology.

Maximum Application Rates	
Combine total per year for all applications	8 quarts per acre
Total of all Preplant, At-planting, Preemergence applications	5 quarts per acre
Total of all In-crop applications from emergence through 48-inch Corn	3 quarts per acre
Maximum preharvest application rate after maximum kernel fill is Complete and the crop is physiologically mature(black layer Formed) until 7 days before harvest*	1 quart per acre

\*See PRECAUTIONS, RESTRICTIONS section for Preharvest application.

**PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for precautionary instructions regarding the use of this product in Roundup Ready crops. See the "PRODUCT INFORMATION" section of this label for more information on Maximum Application Rates. The use of the in-crop (over-the-top) rates described in these instructions on other than corn hybrids with Roundup Ready 2 Technology may cause crop injury and reduced yields.

Preplant, At-planting, Preemergence

**USE INSTRUCTIONS:** This product may be applied alone or in a tank mixture before, during or after planting.

**TANK MIXTURES:** This product may be tank-mixed with the products listed below. Ensure that the specific product being used is labeled for application prior to the emergence of corn. Read and follow label directions for all products in the tank mixture. Apply these tank mixtures in 10 to 20 gallons of water, or 10 to 60 gallons of nitrogen solution per acre.

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(Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use preplant, at-planting and/or preemergence to corn:

2,4-D, acetochlor, alachlor, atrazine, carfentrazone-ethyl, clopyralid, dicamba, diflufenzopyr, dimethenamid, dimethenamid-p, flufenacet, flumetsulam, flumiclorac pentyl ester, isoxaflutole, linuron, metolachlor, s-metolachlor, metribuzin, pendimethalin, rimsulfuron, simazine

Aim, Aim EC, Axiom, Balance, Balance PRO, Banvel, Bicep MAGNUM, Bicep II MAGNUM, Bicep Lite II MAGNUM, Bullet, Cinch, Cinch ATZ, Clarity, Define, Degree, Degree Xtra, Distinct, Dual MAGNUM, Dual II MAGNUM, Epic, Frontier, FulTime, Guardsman, Guardsman MAX, Harness, Harness Xtra, Harness Xtra 5.6L, Hornet, Keystone, Keystone LA, Lariat, Leadoff, Linex, Lorox, Marksman, Me-Too-Lachlor II, Micro-Tech, Outlook, Prowl, Python, Python II, Radius, Resolve, Resource, Shark, Stalwart, Stalwart C, Stalwart Xtra, Surpass, TopNotch]

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**PRECAUTIONS, RESTRICTIONS:** Maximum quantity of this product that may be applied for all preplant, at-planting and preemergence applications combined is 5 quarts per acre per season. Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

**NOTE:** For maximum weed control, make a postemergence (in-crop) application of this product following the use of the preemergence residual products listed above.

Postemergence (In-crop)

**USE INSTRUCTIONS:** This product may be applied alone or in a tank mixture over the top of corn hybrids with Roundup Ready 2 Technology from emergence through the V8 stage (8 leaves with collars), or until corn height reaches 30 inches (free standing), whichever comes first. Use drop nozzles for optimum spray coverage and weed control when corn height is 24 to 30 inches. For corn heights 30 to 48 inches (free standing), apply this product using only ground application equipped with drop nozzles aligned to avoid spraying into the whorls of the corn plants. Single in-crop application of this product up to 48-inch corn must not exceed 3 pints per acre. Sequential in-crop applications of this product from emergence through 48 inches in height must not exceed 3 quarts per acre per growing season.

When applied as directed, this product will control annual grasses and broadleaf weeds listed on this label. Many perennial grasses and broadleaf weeds will be controlled or suppressed with one or more application of this product. Make a postemergence application of 24 to 32 fluid ounces of this product per acre before weeds exceed 4 inches in height (before they become competitive with the crop). Repeat this application before new flushes of weeds exceed 4 inches in height.

**TANK MIXTURES:** This product may be tank-mixed with the following products. Ensure that the specific product being used is labeled for application postemergence (in-crop) to corn. Read and follow label directions of all products in the tank mixture.

[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use postemergence (in-crop) to corn:

2,4-D, atrazine, acetochlor, alachlor, carfentrazone-ethyl, clopyralid, dicamba, diflufenzopyr, flumetsulam, flumiclorac pentyl ester, foramsulfuron, halosulfuron-methyl, iodosulfuron-methyl-sodium, mesotrione, nicosulfuron, rimsulfuron, thifensulfuron methyl, tropamezone

Aim EC, Banvel, Basis, Basis Gold, Bullet, Callisto, Clarity, Degree, Degree Xtra, Distinct, Equip, Harness, Harness Xtra, Harness Xtra 5.6L, Hornet, Impact, Marksman, Micro-Tech, Option, Resolve, Resource, Status]

Tank-Mix Partner	Maximum Height of Corn at Application
Degree	
Degree Xtra	
Harness	11 inches
Harness Xtra	
Harness Xtra 5.6L	
Bullet*	5 inches
Micro-Tech*	
Atrazine	12 inches

\*Bullet and Micro-Tech are not registered for use as a postemergence application in Texas.

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of

water may increase the performance of this product under hard water conditions, drought conditions or when tank mixed with Bullet® or Micro-Tech® herbicides.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 10 days between in-crop applications of this product. Allow a minimum of 50 days between application of this product in-crop and harvest of corn forage or grain. Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

#### Preharvest

**USE INSTRUCTIONS:** This product may be applied for annual and perennial weed control prior to crop harvest at use rates of up to 32 fluid ounces per acre. Make application at 35 percent grain moisture or less. Ensure that maximum kernel fill is complete and the corn is physiologically mature (black layer formed).

**PRECAUTIONS, RESTRICTIONS:** A preharvest application of this product may only be made if the combined total of previously applied over-the-top or drop nozzle applications does not exceed 64 fluid ounces of this product per acre. Allow a minimum of 7 days between a preharvest application and harvest, or feeding of corn stover or grain.

#### Post-Harvest

**USE INSTRUCTIONS:** This product may be applied for weed control after corn harvest. Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used. Ensure that the specific product being used is labeled for post-harvest application in corn. Read and follow label directions of all products in the tank mixture.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

#### 12.5 Roundup Ready Cotton



**TYPES OF APPLICATION:** Preplant, At-Planting, Preemergence, Postemergence (In-crop), Selective Equipment (In-Crop), Preharvest

**USE INSTRUCTIONS:** Refer to the following table for maximum application rates of this product with Roundup Ready cotton.

Maximum Application Rates	
Combined total per year for all applications	8 quarts per acre
Total of all Preplant, At-Planting, Preemergence applications	5 quarts per acre
Total of all In-crop applications from ground cracking to Layby	4 quarts per acre
Maximum Preharvest application rate	2 quarts per acre
Combined total of all In-crop applications from Emergence through harvest	6 quarts per acre

**PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for precautionary instructions regarding the use of this product in Roundup Ready crops. The combined total application of this product from cotton emergence through harvest must not exceed 6 quarts per acre. Allow a minimum of 7 days between application and harvest. See the "PRODUCT INFORMATION" section of this label for more information on Maximum Application Rates.

Preplant, At-Planting, Preemergence

**USE INSTRUCTIONS:** This product may be applied before, during or after planting Roundup Ready cotton.

**TANK MIXTURES:** This product may be tank-mixed with 2,4-D and Clarity and applied prior to planting only. This product may be tank-mixed with the following products and applied prior to crop emergence.

Ensure that the specific product being used is labeled for application prior to the emergence of cotton. Read and follow label directions of all products in the tank mixture.

[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use prior to the emergence of cotton:

clomazone, diuron, flumioxazin, fluometuron, fomesafen, metolachlor, s-metolachlor, pendimethalin, prometryn, pyriithiobac-sodium

Caparol, Command, Cotoran, Cotton PRO, Direx, Dual MAGNUM, Dual II MAGNUM, Karmex, Meturon, PARRLAY, Prowl, Prowl H2O, Relfex, Stalwart, Staple, Valor, Zorial]

**PRECAUTIONS, RESTRICTIONS:** Maximum quantity of this product that may be applied for all preplant, at-planting and preemergence applications combined is 5 quarts per acre per season. Refer to individual tank-mix product label for restrictions and precautions. Use according to the most restrictive precautionary statements for each product in the tank mixture.

Postemergence (In-crop)

**USE INSTRUCTIONS:** This product may be applied over the top Roundup Ready cotton (in-crop) at rates up to 1 quart per acre per application from the ground cracking stage until the 4-leaf (node) stage of development (until the fifth true leaf reaches the size of a quarter). NO MORE THAN TWO OVER-THE-TOP BROADCAST APPLICATIONS MAY BE MADE FROM CROP EMERGENCE THROUGH THE 4-LEAF (NODE) STAGE OF DEVELOPMENT. SEQUENTIAL OVER-THE-TOP OR POST-DIRECTED APPLICATIONS OF THIS PRODUCT IN-CROP MUST BE AT LEAST 10 DAYS APART AND COTTON MUST HAVE AT LEAST TWO NODES OF INCREMENTAL GROWTH BETWEEN APPLICATIONS.

Over-the-top application made after the 4-leaf (node) stage of development could result in boll loss, delayed maturity and/or yield loss.

**TANK MIXTURES:** This product may be tank-mixed with the following products and applied over the top of Roundup Ready cotton up to the 4-leaf stage. Ensure that the specific product being used is labeled for application postemergence (in-crop) to cotton. Read and follow label directions of all products in the tank mixture.

(Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use postemergence (in-crop) to cotton:

clethodim, fluazifop-P-butyl, fomesafen, metolachlor, s-metolachlor, pyriithiobac-sodium, sethoxydim, quizalofop-P-ethyl

Assure II, Dual MAGNUM, Fusilade, Poast Plus, Select, Stalwart, Staple]

(Optional text: Staple may cause leaf yellowing and/or leaf crinkling when applied postemergence (in-crop) to Roundup Ready cotton. Dual Magnum and Stalwart applied over the top of Roundup Ready cotton may cause leaf injury in the form of necrotic spotting.)

Salvage Treatment-this treatment may be used after the 4-leaf stage of development and only where weeds threaten to cause the loss of the crop. Apply 1 quart per acre either as an over-the-top application or as a post-directed treatment sprayed higher on the cotton plants and over the weeds.

**NOTE:** SALVAGE TREATMENT WILL RESULT IN SIGNIFICANT BOLL LOSS, DELAYED MATURITY AND/OR YIELD LOSS. NO MORE THAN ONE SALVAGE TREATMENT MAY BE USED PER GROWING SEASON.

**PRECAUTIONS, RESTRICTIONS:** The maximum quantity of this product that may be applied for all incrop applications from ground-cracking to layby combined is 4 quarts per acre per season. DO NOT ADD ADDITIONAL SURFACTANT OR ADDITIVES CONTAINING SURFACTANT TO THIS PRODUCT (OTHER THAN THOSE CONTAINED IN ANY TANK-MIX PRODUCT) FOR OVER-THE-TOP APPLICATIONS TO ROUNDUP READY COTTON.

Selective Equipment (In-crop)

**USE INSTRUCTIONS:** This product may be applied using precision post-directed or hooded sprayers at rates up to 1 quart per acre per application to Roundup Ready cotton through layby. At this stage, use post-directed equipment to direct the spray to the base of the cotton plants. Avoid contact of the herbicide spray with the cotton leaves to the maximum extent possible. To minimize spray contact maintain low spray pressure (less than 30 pounds per square inch) and place nozzles in a low position, directing a horizontal spray pattern under the cotton leaves and onto weeds in the row. For best results, apply this product while weeds are small (less than 3 inches). See additional use instructions in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**TANK MIXTURES:** This product can be tank-mixed with the following products for in-crop application using precision post-directed or hooded sprayers. Ensure that the specific product being used is labeled for application postemergence (in-crop) to cotton. Read and follow label directions of all products in the tank mixture.

(Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use postemergence (in-crop) to cotton:

carfentrazone-ethyl, diuron, flumioxazin, fluometuron, linuron, pendimethalin, prometryn, pyriithiobac-sodium, trifloxysulfuron-sodium  
Aim, Caparol, Cotoran, Direx, Layby-Pro, Prowl H2O, Staple, Valor]

(Optional text: Staple may cause leaf yellowing and/or leaf crinkling when applied postemergence (in-crop) to Roundup Ready cotton.)

**PRECAUTIONS, RESTRICTIONS:** Maximum quantity of this product that may be applied for all in-crop applications from ground-cracking to layby combined is 4 quarts per acre per season. NO MORE THAN TWO APPLICATIONS OF THIS PRODUCT MAY BE MADE FROM THE 5-LEAF STAGE THROUGH LAYBY. SEQUENTIAL OVER-THE-TOP OR POST-DIRECTED APPLICATIONS OF THIS PRODUCT IN-CROP MUST BE AT LEAST 10 DAYS APART AND COTTON MUST HAVE AT LEAST TWO NODES

OF INCREMENTAL GROWTH BETWEEN APPLICATIONS. Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

#### Preharvest

**USE INSTRUCTIONS:** This product may be applied for annual and perennial weed control prior to crop harvest after 20 percent boll crack. Apply up to 2 quarts of this product per acre. **NOTE:** This product will not enhance the performance of harvest aids when applied to Roundup Ready cotton.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest of cotton. Do not apply this product for preharvest weed control to Roundup Ready cotton grown for seed, as a reduction in germination or vigor may occur. Buyer and all users are responsible for any and all loss or damage in connection with the preharvest use of this product on Roundup Ready cotton grown for seed. **DO NOT ADD ADDITIONAL SURFACTANT OR ADDITIVES CONTAINING SURFACTANT TO THIS PRODUCT FOR PREHARVEST APPLICATION TO ROUNDUP READY COTTON.**

**ATTENTION:** USE OF THIS PRODUCT IN ACCORDANCE WITH LABEL DIRECTIONS IS EXPECTED TO RESULT IN NORMAL GROWTH OF ROUNDUP READY COTTON, HOWEVER, DUE TO THE SENSITIVITY OF COTTON FRUITING TO VARIOUS ENVIRONMENTAL CONDITIONS, AGRONOMIC PRACTICES AND OTHER FACTORS IT IS IMPOSSIBLE TO ELIMINATE ALL RISKS ASSOCIATED WITH THIS PRODUCT, EVEN WHEN APPLICATIONS ARE MADE IN CONFORMANCE WITH THE LABEL SPECIFICATIONS. IN SOME CASES, THESE FACTORS CAN RESULT IN BOLL LOSS, DELAYED MATURITY AND/OR YIELD LOSS.

#### 12.6 Roundup Ready Flex Cotton

The instructions provided in this section are specific to, and may only be used with, varieties designated as Roundup Ready Flex cotton. Applications described in this section on other than Roundup Ready Flex cotton will cause crop injury and reduced yields. **DO NOT** combine the instructions in this section, with those in the "Roundup Ready Cotton" section of this label, or with any other Roundup Ready cotton or Roundup Ready Flex cotton instructions on labeling for this or any other glyphosate-containing products. Drift of this product from an application made to Roundup Ready Flex cotton onto adjacent fields of post 4-leaf (node) Roundup Ready cotton may cause extensive injury including boll loss, delayed maturity and/or yield loss.

**TYPES OF APPLICATION:** Preplant, At-Planting, Preemergence, Postemergence (In-crop), Preharvest

**USE INSTRUCTIONS:** Refer to the following table for maximum application rates of this product with Roundup Ready Flex cotton.

Maximum Application Rates	
Combined total per year for all applications	8 quarts per acre
Total of all Preplant, At-Planting, Preemergence	5 quarts per acre
Total of all In-crop applications from cracking to 60 percent open bolls	6 quarts per acre
Total of all In-crop applications between layby and 60 percent open bolls	2 quarts per acre
Total of all In-crop applications from 60 percent open bolls to 7 days Prior to harvest	2 quarts per acre
Total of all In-crop applications from emergence through harvest	6 quarts per acre

**PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for precautionary instructions regarding the use of this product in Roundup Ready crops. See the "PRODUCT INFORMATION" section of this label for more information on Maximum Application Rates.

Preplant, At-Planting, Preemergence

USE INSTRUCTIONS: This product may be applied before, during or after planting Roundup Ready Flex cotton.

TANK MIXTURES: This product may be tank-mixed with 2,4-D or Clarity and applied prior to planting only. This product may be tank-mixed with the following products and applied prior to crop emergence. Ensure that the specific product being used is labeled for application prior to planting or the emergence of cotton. Read and follow label directions of all products in the tank mixture.

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(Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use prior to the emergence of cotton:

clomazone, diuron, flumioxazin, fluometuron, fomesafen, metolachlor, s-metolachlor, pendimethalin, prometryn, pyriproxyfen-sodium

Caparol, Command, Cotoran, Cotton-Pro, Direx, Dual MAGNUM, Dual II MAGNUM, Karmex, Meturon, PARRLAY, Prowl, Prowl H2O, Reflex, Stalwart, Staple, Valor, Zorial]

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PRECAUTIONS, RESTRICTIONS: Maximum quantity of this product that may be applied for all preplant, at-planting and preemergence applications combined is 5 quarts per acre per season. Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

#### Postemergence (In-crop)

USE INSTRUCTIONS: This product may be applied to control annual grasses and broadleaf weeds listed on this label in Roundup Ready Flex cotton. To maximize yield potential, eliminate competing weeds early. Many perennial weeds will be controlled or suppressed with one or more applications of this product. Use an initial application of 1 quart per acre to control or suppress 1 to 3 inch tall annual grasses and broadleaf weeds. This product may be applied postemergence to Roundup Ready Flex cotton using ground application equipment at rates up to 1.5 quarts per acre per application. In addition to broadcast application, post-directed spray equipment may be used to achieve more thorough weed coverage.

TANK MIXTURES: This product may be tank-mixed with the following products and applied postemergence (in-crop) over the top of Roundup Ready Flex cotton. Ensure that the specific product being used is labeled for application postemergence (in-crop) to cotton. Read and follow label directions of all products in the tank mixture.

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(Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use postemergence (in-crop) to cotton:

clethodim, fluazifop-P-butyl, fomesafen, metolachlor, s-metolachlor, pyriproxyfen-sodium, quizalofop-p-ethyl, sethoxydim, trifloxysulfuron-sodium

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Assure II, Dual MAGNUM, Envoke, Fusilade, Poast Plus, Reflex, Select, Select MAX, Stalwart, Staple]

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(Optional text: Staple may cause leaf yellowing and/or leaf crinkling when applied postemergence (in-crop) in Roundup Ready Flex cotton. Dual Magnum and Stalwart applied over the top of Roundup Ready Flex cotton may cause leaf injury in the form of necrotic spotting.)

This product can be tank-mixed with the following products for in-crop application using precision post-directed or hooded sprayers. Ensure that the specific product being used is labeled for application postemergence (in-crop) to cotton. Read and follow label directions of all products in the tank mixture.

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(Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use postemergence (in-crop) to cotton:

carfentrazone-ethyl, diuron, flumioxazin, fluometuron, linuron, pendimethalin, prometryn, pyriproxyfen-sodium, trifloxysulfuron-sodium

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Aim, Caparol, Cotoran, Direx, Envoke, Layby-Pro, PARRLAY, Prowl H2O, Staple, Valor]

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(Optional text: Staple may cause leaf yellowing and/or leaf crinkling when applied postemergence (in-crop) in

Roundup Ready Flex cotton.]

**PRECAUTIONS, RESTRICTIONS:** The maximum single, in-crop application rate of this product to Roundup Ready Flex cotton using ground application equipment is 1.5 quarts per acre. In-crop application rates above 1 quart per acre made alone or with the addition of other crop chemical products containing surfactant may cause a crop response including leaf speckling or leaf necrosis. Do not exceed a maximum rate of 1 quart of this product per acre when making application by air. Between layby and 60 percent open bolls, the maximum combined total application rate of this product is 2 quarts per acre. The maximum combined total of all applications of this product made from crop emergence to 60 percent open bolls must not exceed 6 quarts per acre. **DO NOT ADD ADDITIONAL SURFACTANT OR ADDITIVES CONTAINING SURFACTANT TO THIS PRODUCT FOR OVER-THE-TOP APPLICATION TO ROUNDUP READY FLEX COTTON.** Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

#### Preharvest

**USE INSTRUCTIONS:** This product may be applied to Roundup Ready Flex cotton up to 2 quarts per acre for annual and perennial weed control prior to harvest after 60 percent boll crack.

**NOTE:** This product will not enhance the performance of harvest aids when applied to Roundup Ready Flex cotton.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest of Roundup Ready Flex cotton. **DO NOT ADD ADDITIONAL SURFACTANT OR ADDITIVES CONTAINING SURFACTANT TO THIS PRODUCT FOR PREHARVEST APPLICATION TO ROUNDUP READY FLEX COTTON.**

**ATTENTION:** USE OF THIS PRODUCT IN ACCORDANCE WITH LABEL DIRECTIONS IS EXPECTED TO RESULT IN NORMAL GROWTH OF ROUNDUP READY FLEX COTTON. HOWEVER, DUE TO THE SENSITIVITY OF COTTON FRUITING TO VARIOUS ENVIRONMENTAL CONDITIONS, AGRONOMIC PRACTICES AND OTHER FACTORS, IT IS IMPOSSIBLE TO ELIMINATE ALL RISKS ASSOCIATED WITH THIS PRODUCT, EVEN WHEN APPLICATIONS ARE MADE IN CONFORMANCE WITH THE

**LABEL SPECIFICATIONS.** IN SOME CASES, THESE FACTORS CAN RESULT IN BOLL LOSS, DELAYED MATURITY AND/OR YIELD LOSS.

#### 12.7 Roundup Ready Soybean

**TYPES OF APPLICATION:** Preplant, At-Planting, Preemergence, Postemergence (In-crop), Preharvest, Post-Harvest

**USE INSTRUCTIONS:** Refer to the following table for maximum application rates of this product with Roundup Ready soybean.

Maximum Application Rates	
Combined total per year for all applications	8 quarts per acre
Total of all Preplant, At-Planting, Preemergence	5 quarts per acre
Total of all In-crop applications from cracking through Flowering (R2 stage soybean)	3 6 quarts per acre
Maximum preharvest application rate	1 quart per acre

**PRECAUTIONS/RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for precautionary instructions regarding the use of this product in Roundup Ready crops. The maximum combined total quantity of this product for all applications in a season is 8 quarts per acre. See the "PRODUCT INFORMATION" section of this label for more information on Maximum Application Rates.

#### Preplant, At-Planting, Preemergence

**USE INSTRUCTIONS:** This product may be applied before, during or after planting Roundup Ready soybean.

**TANK MIXTURES:** This product may be tank-mixed with 2,4-D, Banvel or Clarity and applied prior to planting only. This product may be tank-mixed with the following products and applied prior to crop

emergence. Ensure that the specific product being used is labeled for application prior to planting or the emergence of soybean. Read and follow label directions of all products in the tank mixture.

[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use preplant, at-planting and/or preemergence to soybean:

alachlor, atrazine, carfentrazone-ethyl, chlorimuron ethyl, clethodim, clomazone, cloransulam-methyl, dimethenamid-p, fenoxaprop, fluazifop-p-butyl, flufenacet, flumetsulam, flumiclorac pentyl ester, flumioxazin, fomesafen, imazaquin, imazethapyr, lactofen, linuron, metolachlor, s-metolachlor, metribuzin, pendimethalin, stiltfentrazone, tribenuron methyl, trifluralin, quizalofop P-ethyl

Aim, Assure II, Axiom, Authority, Blanket, Boundary, Canopy, Canopy EX, Classic, Cobra, Command, Command Xtra, Domain, Dual MAGNUM, Dual II MAGNUM, FirstRate, Flexstar, Frontier, Fusion, Gangster, Gauntlet, INTRRO, Lexone, Linex, Linuron, Lorox, Lorox Plus, Me-Too-Lachlor, Micro-Tech, Outlook, Pendimax, Prowl, Prowl H2O, Pursuit, Pursuit Plus, Python, Reflex, Resource, Scepter, Select, Select MAX, Sencor, Spartan, Squadron, Steel, Treflan, Valor]

**PRECAUTIONS, RESTRICTIONS:** Maximum quantity of this product that may be applied for all preplant, at-planting and preemergence applications combined is 5 quarts per acre per season. Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

#### Postemergence (In-crop)

**USE INSTRUCTIONS:** This product may be used to control annual grasses and broadleaf weeds in Roundup Ready soybean. This product can be applied from emergence (cracking) through flowering (R2 stage soybean). R2 stage soybean ends when a pod 5 millimeters (3/16 inch) long appears at one of the four uppermost nodes on the main stem with a fully developed leaf (R3 stage). Refer to the "ANNUAL WEEDS RATE SECTION" of this label for application rates for specific annual weeds. An initial application rate of 1 quart per acre can be used to control or suppress most 2 to 8 inch tall weeds. Weeds will be 2 to 8 inches tall approximately 2 to 5 weeks after planting. If the initial application is delayed and weeds are larger, apply a higher rate of this product. This product may be used up to 2 quarts per acre in any single, in-crop application for control of annual weeds and where dense weed populations exist.

A 1 to 2-quarts per acre rate (single or multiple applications) of this product will control or suppress perennial weeds, including bermudagrass, Canada thistle, common milkweed, field bindweed, hemp dogbane, horsenettle, maretail (horseweed), nutsedge, quackgrass, rhizome johnsongrass, redvine, trumpetcreeper, swamp smartweed and wirestem muhly. For best results, allow perennial weed species to achieve at least 6 inches of growth before spraying with this product.

Under adverse growing conditions, including drought, hail, wind damage or a poor soybean stand that slows or delays canopy closure, a sequential application of this product may be necessary to control late flushes of weeds. **IN THE SOUTHERN STATES, A SEQUENTIAL APPLICATION OF THIS PRODUCT WILL BE REQUIRED TO CONTROL NEW FLUSHES OF WEEDS IN THE ROUNDUP READY SOYBEAN CROP.** To control giant ragweed, apply 1 quart of this product per acre when the weed is 8 to 12 inches tall to increase control and possibly avoid the need for a sequential application.

**TANK MIXTURES:** This product may be tank-mixed with the following products and applied postemergence (in-crop) over the top of Roundup Ready soybean. Ensure that the specific product being used is labeled for application postemergence (in-crop) to soybean. Read and follow label directions of all products in the tank mixture.

[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use postemergence (in-crop) to soybean:

acifluorfen, bentazon, chlorimuron ethyl, clethodim, cloransulam-methyl, fenoxaprop, fluazifop-p-butyl, flumiclorac pentyl ester, fomesafen, imazamox, imazethapyr, lactofen, pendimethalin, quizalofop P-ethyl, sethoxydem, thifensulfuron-methyl

Arrow, Assure II, Basagran, Classic, Cobra, Extreme, FirstRate, Flexstar, Fusilade DX, Fusion, Harmony GT XP, Poast, Poast Plus, Pursuit, Pursuit Plus, Raptor, Reflex, Select, Select MAX, Synchrony STS, Targa, Ultra Blazer]

**PRECAUTIONS, RESTRICTIONS:** The combined total application of this product from crop emergence through harvest must not exceed 3 quarts per acre. The maximum rate for any single in-crop application is 2 quarts per acre. The maximum combined total of this product that can be applied during flowering (R2 stage soybean) is 2 quarts per acre. Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture. In some cases, these tank-mix products will cause visual soybean injury.

#### Preharvest

**USE INSTRUCTIONS:** This product may be applied to Roundup Ready soybean for weed control prior to harvest. Apply up to 1 quart of this product per acre after pods have set and lost all green color.

**PRECAUTIONS, RESTRICTIONS:** Take care to avoid excessive seed shatter loss due to ground application equipment. Allow a minimum of 14 days between final application and harvest of soybean grain or feeding of soybean grain, forage or hay.

#### Post-Harvest

**USE INSTRUCTIONS:** This product may be applied for weed control after harvest of Roundup Ready soybean. Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used. Ensure that the specific product being used is labeled for weed control application after harvest of soybean. Read and follow label directions of all products in the tank mixture.

#### 12.8 Roundup Ready 2 Yield Soybean

**TYPES OF APPLICATION:** Preplant, At-Planting, Preemergence, Postemergence (In-crop), Preharvest, Post-Harvest

**USE INSTRUCTIONS:** Refer to the following table for maximum application rates of this product with Roundup Ready 2 Yield soybean.

Maximum Application Rates	
Combined total per year for all applications	8 quarts per acre
Total of all Preplant, At-Planting, Preemergence	5 quarts per acre
Total of all In-crop applications from cracking through Flowering (R2 stage soybean)	3 quarts per acre
Maximum preharvest application rate	1 quart per acre

**PRECAUTIONS/RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for precautionary instructions regarding the use of this product in Roundup Ready crops. The maximum combined total quantity of this product for all applications in a season is 8 quarts per acre. See the "PRODUCT INFORMATION" section of this label for more information on Maximum Application Rates.

#### Preplant, At-Planting, Preemergence

**USE INSTRUCTIONS:** This product may be applied before, during or after planting Roundup Ready 2 Yield soybean.

**TANK MIXTURES:** This product may be tank-mixed with 2,4-D, Banvel or Clarity and applied prior to planting only. This product may be tank-mixed with the following products and applied prior to crop emergence. Ensure that the specific product being used is labeled for application prior to planting or the emergence of soybean. Read and follow label directions of all products in the tank mixture.

[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use preplant, at-planting and/or preemergence to soybean:

alachlor, atrazine, carfentrazone-ethyl, chlorimuron ethyl, clethodim, clomazone, cloransulam-methyl, dimethenamid-p, fenoxaprop, fluazifop-p-butyl, flufenacet, flumetsulam, flumiclorac pentyl ester, flumioxazin, fomesafen, imazaquin, imazethapyr, lactofen, linuron, metolachlor, s-metolachlor, metribuzin, pendimethalin, sulfentrazone, tribenuron methyl, trifluralin, quizalofop P-ethyl

Aim, Assure II, Axiom, Authority, Blanket, Boundary, Canopy, Canopy EX, Classic, Cobra, Command, Command Xtra, Domain, Dual MAGNUM, Dual II MAGNUM, FirstRate, Flexstar, Frontier, Fusion, Gangster, Gauntlet, INTRRO, Lexone, Linex, Linuron, Lorox, Lorox Plus, Me-Too-Lachlor, Micro-Tech, Outlook, Pendimax, Prowl, Prowl H2O, Pursuit, Pursuit Plus, Python, Reflex, Resource, Scepter, Select, Select MAX, Sencor, Spartan, Squadron, Steel, Treflan, Valor]

**PRECAUTIONS, RESTRICTIONS:** Maximum quantity of this product that may be applied for all preplant, at-planting and preemergence applications combined is 5 quarts per acre per season. Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

#### Postemergence (In-crop)

**USE INSTRUCTIONS:** This product may be used to control annual grasses and broadleaf weeds in Roundup Ready 2 Yield soybean. This product can be applied from emergence (cracking) through flowering (R2 stage soybean). R2 stage soybean ends when a pod 5 millimeters (3/16 inch) long appears at one of the four uppermost nodes on the main stem with a fully developed leaf (R3 stage). Refer to the "ANNUAL WEEDS RATE SECTION" of this label for application rates for specific annual weeds. An initial application rate of 1 quart per acre can be used to control or suppress most 2 to 8 inch tall weeds. Weeds will be 2 to 8 inches tall approximately 2 to 5 weeks after planting. If the initial application is delayed and weeds are larger, apply a higher rate of this product. This product may be used up to 2 quarts per acre in any single, in-crop application for control of annual weeds and where dense weed populations exist.

A 1 to 2-quarts per acre rate (single or multiple applications) of this product will control or suppress perennial weeds, including bermudagrass, Canada thistle, common milkweed, field bindweed, hemp dogbane, horsenettle, marestail (horseweed), nutsedge, quackgrass, rhizome johnsongrass, redvine, trumpetcreeper, swamp smartweed and wirestem muhly. For best results, allow perennial weed species to achieve at least 6 inches of growth before spraying with this product.

Under adverse growing conditions, including drought, hail, wind damage or a poor soybean stand, that slows or delays canopy closure, a sequential application of this may be necessary to control late flushes of weeds. IN THE SOUTHERN STATES, A SEQUENTIAL APPLICATION OF THIS PRODUCT WILL BE REQUIRED TO CONTROL NEW FLUSHES OF WEEDS IN THE ROUNDUP READY 2 YIELD SOYBEAN CROP. To control giant ragweed, apply 1 quart of this product per acre when the weed is 8 to 12 inches tall to increase control and possibly avoid the need for a sequential application.

**TANK MIXTURES:** This product may be tank-mixed with the following products and applied postemergence (in-crop) over the top of Roundup Ready 2 Yield soybean. Ensure that the specific product being used is labeled for application postemergence (in-crop) to soybean. Read and follow label directions of all products in the tank mixture.

[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use postemergence (in-crop) to soybean:

acifluorfen, bentazon, chlorimuron ethyl, clethodim, cloransulam-methyl, fenoxaprop, fluazifop-p-butyl, flumiclorac pentyl ester, fomesafen, imazamox, imazethapyr, lactofen, pendimethalin, quizalofop P-ethyl, sethoxydem, thifensulfuron-methyl

Arrow, Assure II, Basagran, Classic, Cobra, Extreme, FirstRate, Flexstar, Fusilade DX, Fusion, Harmony GT XP, Poast, Poast Plus, Pursuit, Pursuit Plus, Raptor, Reflex, Select, Select MAX, Synchrony STS, Targa, Ultra Blazer]

**PRECAUTIONS, RESTRICTIONS:** The combined total application of this product from crop emergence through harvest must not exceed 3 quarts per acre. The maximum rate for any single, in-crop application



is 2 quarts per acre. The maximum combined total of this product that can be applied during flowering (R2 stage soybean) is 2 quarts per acre. Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture. In some cases, these tank-mix products will cause visual soybean injury.

#### Preharvest

USE INSTRUCTIONS: This product may be applied to Roundup Ready 2 Yield soybean for weed control prior to harvest. Apply up to 1 quart of this product per acre after pods have set and lost all green color.

PRECAUTIONS, RESTRICTIONS: Take care to avoid excessive seed shatter loss due to ground application equipment. Allow a minimum of 14 days between final application and harvest of soybean grain or feeding of soybean grain, forage or hay.

#### Post-Harvest

USE INSTRUCTIONS: This product may be applied for weed control after harvest of Roundup Ready 2 Yield soybean. Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used. Ensure that the specific product being used is labeled for weed control application after harvest of soybean. Read and follow label directions of all products in the tank mixture.

#### 12.9 Roundup Ready Sugar Beet

TYPES OF APPLICATION: Preplant, At-Planting, Preemergence, Postemergence (In-crop)

USE INSTRUCTIONS: Refer to the following table for maximum application rates of this product with Roundup Ready sugar beet.

Maximum Application Rates	
Combined total per year for all applications	8 quarts per acre
Total of all Preplant, At-Planting, Preemergence applications	5 quarts per acre
Total of all applications made from emergence through The 8 -leaf stage	2.5 quarts per acre
Total of all applications made after the 8-leaf stage and Up to canopy closure	2 quarts per acre

PRECAUTIONS, RESTRICTIONS: See the "ROUNDUP READY CROPS" section of this label for precautionary instructions regarding the use of this product in Roundup Ready crops. The maximum combined total quantity of this product for all applications in a season is 8 quarts per acre. See the "PRODUCT INFORMATION" section of this label for more information on "Maximum Application Rates."

#### Preplant, At-Planting, Preemergence

USE INSTRUCTIONS: This product may be applied before, during or after planting Roundup Ready sugar beet.

TANK MIXTURES: This product may be tank-mixed with the following products and applied prior to crop emergence. Ensure that the specific product being used is labeled for application prior to emergence of sugar beet. Read and follow label directions of all products in the tank mixture.

[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use preplant, at-planting and/or preemergence to sugar beet:

ethofumesate

Norton SC]

#### Postemergence (In-Crop)

**USE INSTRUCTIONS:** This product may be applied over the top of Roundup Ready sugar beet for control of annual grasses and broadleaf weeds from emergence to 30 days prior to harvest. To maximize yield potential eliminate competing weeds early. Up to 4 sequential applications of this product may be made with at least 10 days between applications. This product will control or suppress most perennial weeds. For some perennial weeds, repeat applications may be required to eliminate crop competition throughout the growing season. Refer to the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label for application rates for specific weeds.

**TANK MIXTURES:** This product may be tank-mixed with the following products and applied postemergence (in-crop) over the top of Roundup Ready sugar beet. Ensure that the specific product being used is labeled for application postemergence (in-crop) to sugar beet. Read and follow label directions of all products in the tank mixture

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[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use post emergence (in-crop) to sugar beet:

clethodim, clopyralid, desmedipham, dimethenamid, ethofumesate, s-metolachlor, phenmedipham, quizalofop-p-ethyl, trisulfuron-methyl

Assure II, Betamix, Betanex, Dual MAGNUM, Norton SC, Outlook, Progress, Select, Stinger, Upbeet]

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[Optional statement: Betamix, Betanex, Norton SC and Progress can cause significant sugar beet injury. Refer to these product labels for crop injury precautions.]

**PRECAUTIONS, RESTRICTIONS:** The combined total application of this product from crop emergence through harvest must not exceed 4.5 quarts per acre. The maximum rate for any single application from crop emergence until the 8-leaf stage is 1.5 quarts per acre. The maximum rate for any single application between the 8-leaf stage and canopy closure is 1 quart per acre. Allow a minimum of 30 days between last application and sugar beet harvest. Tank mixtures of this product with herbicides, insecticides or fungicides may result in crop injury or reduced weed control. Refer to individual tank mixture product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

#### 13.0 NON-CROP USES AROUND THE FARMSTEAD

**TYPES OF USES:** Farmstead Weed Control, Trim-and-Edge, Greenhouse/Shadehouse, Chemical Mowing, Cut Stump, Habitat Management

**USE INSTRUCTIONS:** Refer to the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label for application rates for specific weeds. When applied as directed, this product will control those annual and perennial grasses and broadleaf weeds. Application rates of this product specified in the following sections, or on separate supplemental labeling or Fact Sheets published for this product, on how to control tough weeds, supersede rates in the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label.

##### 13.1 Farmstead Weed Control, Trim-And-Edge

**USE INSTRUCTIONS:** This product may be used to control annual weeds, perennial weeds and woody brush found in any part of the farmstead, including around building foundations and equipment storage areas, along and in fences, in dry ditches and canals, along ditchbanks, driveways, farm roads, farmyards, fencerows, parking areas, rangeland, rights-of-way, shelterbelts, storage areas and prior to planting landscape ornamentals.

**TANK MIXTURES:** This product may be tank-mixed with the following products, provided that the specific product used is labeled for use on these non-crop sites. Refer to the individual product labels for approved farmstead sites and application rates. Read and follow label directions of all products in the tank mixture.

[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for use on these non-crop sites:

2,4-D, bromacil, chlorosulfuron, dicamba, diuron, imazapic, imazapyr, metsulfuron-methyl, oryzalin, oxadiazon, pendimethalin, proflam, simazine, sulfometuron-methyl

Aresnal, Banvel, Barricade 65WG, Clarity, Diuron, Endurance, Escort XP, Karmex DF, Krovar I DF, Oust, Pendulum 3.3 EC, Pendulum WDG, Plateau, Princep DF, Princep 4L, Ronstar, Sahara DG, Simazine, Surflan AS Specialty, Telar DF, Vanquish]

For annual weeds, use 1 quart of this product per acre when weeds are less than 6 inches tall, 1.5 quarts per acre when weeds are 6 to 12 inches tall and 2 quarts per acre when weeds are greater than 12 inches tall. For perennial weeds, apply 2 to 5 quarts per acre in these tank mixes. For application of these tank mixtures using backpack sprayers, handguns or other hand-held applicators, see the "ANNUAL WEEDS-HAND-HELD OR BACKPACK EQUIPMENT" section of this label for the required concentration of this product in the mix.

**PRECAUTIONS, RESTRICTIONS:** Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

### 13.2 Greenhouse/Shadehouse

**USE INSTRUCTIONS:** This product may be used to control weeds in and around greenhouses and shadehouses.

**PRECAUTIONS, RESTRICTIONS:** Desirable vegetation must not be present during application and air circulation fans must be turned off until after the application has dried. Do not use in residential greenhouses.

### 13.3 Chemical Mowing

**USE INSTRUCTIONS:** This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Apply 6 fluid ounces of this product per acre when treating Kentucky bluegrass. Apply 8 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass, bahiagrass or quackgrass covers. Apply 16 fluid ounces of this product per acre when treating bermudagrass. Apply 64 fluid ounces of this product per acre when treating torpedograss or paragrass. Make all applications in 10 to 20 gallons of spray solution per acre. Chemical mowing application may be made along farm ditches and other parts of farmsteads.

**PRECAUTIONS, RESTRICTIONS:** Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

### 13.4 Cut Stump

**TYPES OF USES:** Treating cut stumps in any non-crop site listed on this label

**USE INSTRUCTIONS:** This product will control re-growth of cut stumps and re-sprouts of many types of woody brush and tree species, some of which are listed below. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or re-sprouts close to the soil surface. Apply a 50 to 100 percent solution of this product to the freshly cut surface immediately after cutting. Delays in application could result in reduced performance. For best results, apply during periods of active growth and full leaf expansion.

Alder	Oak	Reed, giant	Tan oak
Eucalyptus	Pepper, Brazilian	Saltcedar	Willow
Madrone	Pine, Austrian	Sweetgum	

**PRECAUTIONS, RESTRICTIONS:** Do not make a cut stump applications when the roots of desirable woody brush or trees may be grafted to the roots of the cut stump. Some sprouts, stems, or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems/trees when one or more trees sharing common roots are treated.

### 13.5 Habitat Management

**TYPES OF USES:** Habitat Restoration and Maintenance, Wildlife Food Plots Habitat Restoration and Maintenance

**USE INSTRUCTIONS:** This product may be used to control exotic and other undesirable vegetation in habitat management areas. Application can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broad-spectrum vegetation control requirements in habitat management areas. Spot treatment can be used to selectively remove unwanted plants for habitat maintenance and enhancement.

#### Wildlife Food Plots

**USE INSTRUCTIONS:** This product may be used as a site preparation treatment to control annual and perennial weeds prior to planting wildlife food plots. Any wildlife food species may be planted after applying this product, or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait 7 days after application before tillage.

**PRECAUTIONS, RESTRICTIONS:** There are no rotational restrictions for planting any wildlife food species or for allowing native species to repopulate the area following applications of this product.

### 14.0 ANNUAL WEEDS RATE SECTION

When water carrier volumes are between 16 and 40 gallons per acre for ground application and between 6 and 15 gallons per acre for aerial application, the following use rates will control the annual weeds listed in the "ANNUAL WEEDS RATE TABLE" that follows.

- 1 quart per acre - grass and broadleaf annual weeds less than 6 inches in height or circumference and vines less than 3 inches in length.
- 3 pints per acre - grass and broadleaf annual weeds 6 to 12 inches in height or circumference and vines 3 to 6 inches in length.
- 2 quarts per acre - grass and broadleaf annual weeds greater than 12 inches in height or circumference and vines greater than 6 inches in length.

WHEN WATER CARRIER VOLUMES ARE BETWEEN 3 AND 15 GALLONS PER ACRE FOR GROUND APPLICATION AND BETWEEN 3 AND 5 GALLONS PER ACRE FOR AERIAL APPLICATION, USE THE RATES SPECIFIED FOR INDIVIDUAL WEEDS AS FOLLOW IN THE "ANNUAL WEEDS RATE TABLE".

Apply to actively growing annual weeds. Annual weeds are generally easiest to control when they are small.

Older, mature (hardened) annual weed species may require higher rates than specified in this table even if they meet the size requirements. This product may be used up to 64 fluid ounces per acre for tough-to-control annual weeds and where heavy weed densities exist. Follow all precautions and restrictions, including the maximum application rates and crop stage timings specified in the instructions for the crops, including Roundup Ready crops, and use sites listed on this label.

Maximum size refers to the maximum plant height, length of runners for vines, or circumference of rosette plants in inches.

Do not tank-mix with soil residual herbicides when using these rates unless otherwise specified.

**ANNUAL WEEDS RATE TABLE**  
(Alphabetically by Species)

(Fluid Ounces Per Acre) WEED SPECIES	RATE				
	16	24	32	40	48
	(Maximum Size (in inches))				
Ammannia, purple	3	6	12	-	18
Anode, spurred	-	2	3	5	8
Barley	18	18+	-	-	-
Barnyardgrass	-	3	6	7	9
Basle, fivehook	-	-	6	-	-
Beggarweed, Florida	-	5	8	-	-
Bittercress	12	20	-	-	-
Bluegrass, annual	10	-	-	-	-
Bluegrass, bulbous	6	-	-	-	-
Brome, downy <sup>1,2</sup>	6	12	-	-	-
Brome, Japanese	6	12	24	-	-
Browntop panicum	6	8	12	-	24
Buckwheat, wild <sup>3</sup>	-	1	2	-	-
Burcucumber	-	6	12	-	18
Buttercup	12	20	-	-	-
Carolina geranium	-	-	4	-	9
Carpetweed	-	6	12	-	-
Cheat <sup>2</sup>	6	20	-	-	-
Chervil	20	-	-	-	-
Chickweed	-	12	18	-	-
Cocklebur	12	18	24	-	36
Copperleaf, hophornbeam	-	2	4	-	6
Copperleaf, Virginia	-	2	4	-	6
Coreopsis, plains	-	6	12	-	18
Corn, volunteer	6	12	20	-	-
Corn speedwell	12	-	-	-	-
Crabgrass	3	6	12	-	-
Crowfootgrass	-	-	6	-	12
Cutleaf evening primrose	-	-	3	-	6
Devilsclaw (unicorn plant)	-	3	6	-	-
Dwarf dandelion	12	-	-	-	-
Eastern manna grass	8	12	-	-	-
Eclipta	-	4	8	12	-
Fall panicum	4	-	6	-	12
Falsedandelion	-	20	-	-	-
Falseflax, smallseed	12	-	-	-	-
Fiddleneck	-	6	12	-	-
Field pennycress	6	12	-	-	-
Filaree	-	-	6	-	12
Fleabane, annual	6	20	-	-	-
Fleabane, hairy ( <i>Conyza bonariensis</i> )	-	-	6	-	10
Fleabane, rough	3	6	12	-	-
Florida pusley	-	-	4	-	6
Foxtail, giant, bristly, yellow	6	12	20	-	24
Foxtail, Carolina	10	-	1	-	2
Foxtail, green	12	-	1	-	2
Goatgrass, jointed	6	12	1	-	2
Goosegrass	-	3	6	-	12
Grain sorghum (mild)	6	12	20	-	24
Groundcherry	-	3	5	-	9
Groundsel, common	-	6	12	-	-
Hemp sesbania	-	2	4	6	8
Henbit	-	-	6	-	12
Horseweed/ Maretail ( <i>Canyza canadensis</i> )*	-	6	12	-	18
Itchgrass	6	8	12	-	18
Jimsonweed	-	-	12	-	18

Johnsongrass, seedling	6	12	18	-	24
Junglerice	-	3	6	7	9
Knotweed	-	-	6	-	12
Kochia <sup>4</sup>	-	3 to 6	12	-	-
Lambsquarters*	-	6	12	-	20
Little barley	6	12	-	-	-
London rocket	6	-	24	-	-
Mayweed	-	2	6	12	18
Morningglory, annual ( <i>Ipomoea spp</i> )	-	-	3	-	6
Mustard, blue	6	12	18	-	-
Mustard, tansy	6	12	18	-	-
Mustard, tumble	6	12	18	-	-
Mustard, wild	6	12	18	-	-
Nightshade, black	-	4	6	-	12
Nightshade, hairy	-	4	6	-	12
Oats	3	6	18	-	-
Pigweed, Palmer*	-	12	18	24	-
Pigweed species*	-	12	18	24	-
Prickly lettuce	-	6	12	-	-
Purslane	-	-	3	-	6
Ragweed, common*	-	6	12	-	18
Ragweed, giant*	-	6	12	-	18
Red rice	-	-	4	-	-
Rye, volunteer/cereal <sup>2</sup>	6	18	18+	-	-
Ryegrass species*	-	-	6	-	12
Sandbur, field	6	12	-	-	-
Sandbur, longspine	6	12	-	-	-
Shattercane	6	12	20	-	-
Shepherd's-purse	6	12	-	-	-
Sicklepod	-	2	4	-	8
Signalgrass, broadleaf	-	3	6	7	9
Smartweed, ladythumb	-	-	6	-	9
Smartweed, Pennsylvania	-	-	6	-	9
Sowthistle, annual	-	-	6	-	12
Spanishneedles	-	-	6	-	12
Speedwell, purslane	12	-	-	-	-
Sprangletop	6	12	20	-	-
Spurge, prostrate	-	6	12	-	-
Spurge, spotted	-	6	12	-	-
Spurry, umbrella	6	-	-	-	-
Stinkgrass	-	12	-	-	-
Sunflower	12	18	-	-	-
Swinecress	-	5	12	-	-
Teaweed/ Prickly sida	-	2	4	-	6
Texas panicum	6	8	12	-	24
Thistle, Russian <sup>5</sup>	-	6	12	-	-
Velvetleaf	-	-	6	-	12
Virginia pepperweed	-	18	-	-	-
Waterhemp*	-	-	6	-	12
Wheat <sup>2</sup>	6	12	18	-	-
Wheat, (overwintered)	-	6	12	-	18
Wild oats	3	6	18	-	-
Wild proso millet	-	6	12	-	18
Witchgrass	-	12	-	-	-
Woolly cupgrass	-	6	12	-	-
Yellow rocket	-	12	20	-	-

<sup>1</sup> For control of downy brome in no-till systems, use 24 fluid ounces per acre.

<sup>2</sup> Performance is better if application is made before this weed reaches the boot stage of growth.

<sup>3</sup> Use 24 fluid ounces per acre of this product to control wild buckwheat in the cotyledon to 2-leaf stage. Use 32 fluid ounces per acre to control 2- to 4-leaf wild buckwheat. For improved control of wild buckwheat over 2 inches in size, use sequential treatments of 32 fluid ounces followed by 32 fluid ounces of this product per acre.

<sup>4</sup> Do not treat kochia in the button stage.

<sup>5</sup> Control of Russian thistle may vary based on environmental conditions and spray coverage. Whenever possible, a tank mixture with 2,4-D as described below may improve control.

\* A glyphosate resistant biotype has been confirmed. For additional information, refer to the "WEED RESISTANCE MANAGEMENT" section of this label. You may also visit on the Internet [www.weedscience.org](http://www.weedscience.org) or [www.weedresistancemanagement.com](http://www.weedresistancemanagement.com), or contact your Repar-Glypho, LLC, representative.

#### 14.1 Annual Weeds-Tank Mixtures with 2,4-D or Dicamba or Tordon 22K

Better control of certain tough weeds can be achieved by tank-mixing this product with 0.25 pound of dicamba, 0.5 pound of 2,4-D or 1 to 2 fluid ounces of Tordon 22K per acre. These other herbicides, combined with the rates of this product specified in the "ANNUAL WEEDS RATE TABLE" above, will control the following weeds up to the maximum height or length indicated: 6 inches - prickly lettuce, mare's tail/horseweed, morning glory, kochia (dicamba only) wild buckwheat (Tordon 22K only); 12 inches - cocklebur, lambsquarters, pigweed, Russian thistle (2,4-D only).

At rates given in the "ANNUAL WEEDS RATE SECTION", this product will control the following weeds up to a maximum height or length of 6 inches: common ragweed, giant ragweed, Pennsylvania smartweed, and velvetleaf. For better control, tank-mix this product with 0.5 pound of 2,4-D per acre.

Ensure that the specific product being used is labeled for application at the desired site. Follow all precautions and limitations on the tank-mix product label, including application timing restrictions, soil restrictions, minimum re-cropping interval and rotational guidelines. Use according to the more restrictive label requirements. Some crop injury may occur if dicamba or Tordon 22K is applied within 45 days of planting.

#### 14.2 Annual Weeds-Hand-Held or Backpack Equipment

For control of weeds listed in the "ANNUAL WEEDS RATE TABLE" above, apply a 0.5-percent solution of this product to weeds less than 6 inches in height or runner length. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds. For annual weeds over 6 inches tall, or unless otherwise specified, use a 1-percent solution.

For best results, use a 2-percent solution on harder-to-control perennials, such as bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle.

When using application methods that result in less than complete coverage, use a 5-percent solution for annual and perennial weeds, and a 5 to 10-percent solution for woody brush and trees.

#### 14.3 Annual Weeds-Tank Mixtures with Atrazine for Fallow and Reduced Tillage Systems

For use only in Colorado, Kansas, Nebraska, Oklahoma, Oregon, South Dakota, and Washington. In Oregon and Washington, do not exceed 1 pound of atrazine per acre.

Application of 24 to 28 fluid ounces of this product plus 1 to 2 pounds of atrazine per acre will control the following weeds: barnyardgrass (requires 28 fluid ounces for control), downy brome, green foxtail, lambsquarters, prickly lettuce, tansy mustard, pigweed, field sandbur, stinkgrass, Russian thistle, volunteer wheat, witchgrass and kochia (add 0.12 pound of dicamba for control).

Ensure that the specific atrazine or dicamba product being used is labeled for application at the desired site. Follow all precautions and limitations on the tank mix product's label, including application timing restrictions, soil restrictions, minimum re-cropping interval and rotational guidelines.

#### 15.0 PERENNIAL WEEDS RATE SECTION

Apply to actively growing perennial weeds.

NOTE: If weeds have been mowed or tilled, do not treat until plants have resumed active growth and have reached the specified stage.

Repeat treatments may be necessary to control weeds regenerating from underground parts or seed. Repeat treatments must be made prior to crop emergence.

Unless otherwise stated, allow 7 or more days after application before tillage.

Best results are obtained when soil moisture is adequate for active weed growth.

#### PERENNIAL WEEDS RATE TABLE

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
<b>Alfalfa</b>	1 -2	3-10	2%
Apply after the last hay cutting in the fall. Allow alfalfa to re-grow to a height of 6 to 8 inches or more prior to treatment. Follow application with deep tillage at least 7 days after treatment, but before soil freeze-up.			
<b>Alligatorweed</b>	4	3-20	1.5%
For partial control, apply when most of the plants are in bloom. Repeat applications will be required to achieve control.			
<b>Anise (fennel) 1</b>		-	1 -2%
Apply as a spray-to-wet treatment.			
<b>Bahiagrass2</b>	3-5	3-20	2%
<b>Bentgrass</b>	3-5	10-20	2%
For suppression in grass seed production areas. For ground application only. Ensure entire crown area has resumed growth prior to a fall application. Ensure that bentgrass has at least 3 inches of growth before application. Avoid tillage prior to treatment. Tillage 7 to 10 days after application provides best results.			
<b>Bermudagrass</b>	3-5	3-20	2%
For control, apply 5 quarts of this product per acre. For partial control, apply 3 quarts per acre. Apply when bermudagrass is actively growing and seedheads are present. Retreatment may be necessary to achieve control.			
<b>Bermudagrass, water (knotgrass)</b>	1 -1.5	5-10	2%
Apply 3 pints of this product in 5 to 10 gallons of water per acre when water bermudagrass is 12 to 18 inches in length. Allow 7 or more days before tilling, flushing or flooding the field.			
For fall application, apply 1 quart this product in 5 to 10 gallons of water per acre. Till fallow fields prior to application. Apply prior to frost on water bermudagrass that is 12 to 18 inches in length.			
This product is not registered in California for use on water bermudagrass.			
<b>Bindweed, field</b>	0.5 - 5	3-20	2%
Do not treat when weeds are under drought stress as good soil moisture is necessary for active growth.			
For control, apply 4 to 5 quarts of this product per acre west of the Mississippi River and 3 to 4 quarts per acre east of the Mississippi River when bindweed is at or beyond full bloom. For best results, apply in late summer or fall. Fall treatment must be applied before a killing frost.			
Also for control, apply 2 quarts of this product plus 0.5 pound of dicamba in 10 to 20 gallons of water per acre. Do not apply by air.			
For suppression on irrigated agricultural land, apply 1 to 2 quarts of this product plus 1 pound of 2,4-D in 10 to 20 gallons of water per acre with ground application equipment only. Application can be made following harvest or in fall fallow ground when bindweed is actively growing and the majority of runners are 12 inches or more in length. Irrigate at least once to promote active bindweed growth.			
For suppression, apply 1 pint of this product plus 0.5 pound of 2,4-D, in 3 to 10 gallons of water per acre with ground application equipment, or in 3 to 5 gallons of water per acre for aerial application. Apply by air in fallow and reduced tillage systems only. Delay application until maximum emergence has occurred and when vines are between 6 to 18 inches in length.			



In California only, apply 1 to 5 quarts of this product per acre. Actual rate needed for suppression or control will vary within this range depending on local conditions. For suppression on irrigated land where annual tillage is performed, apply 1 quart of this product in 3 to 10 gallons of water per acre when bindweed has reached a length of 12 inches or greater. Allow maximum weed emergence and runner growth before application. Allow 3 or more days after application before tillage.

**Bluegrass, Kentucky** 1-2 3-40 2%

Apply 2 quarts of this product in 10 to 40 gallons of water per acre when most plants have reached the boot to early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre to actively growing plants when most have reached 4 to 12 inches in height.

**Blueseed, Texas** 3-5 3-40 2%

Apply 4 to 5 quarts of this product per acre west of the Mississippi River and 3 to 4 quarts per acre east of the Mississippi River when plants are at or beyond full bloom. New leaf development indicates active growth. For best results, apply in late summer or fall. Fall treatment must be applied before a killing frost.

**Brackenfern** 3-4 3-40 1-1.5%

Apply to fully expanded fronds that are at least 18 inches long.

**Bromegrass, smooth** 1-2 3-40 2%

Apply 2 quarts of this product in 10 to 40 gallons of water per acre when most plants have reached the boot to early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre to actively growing plants when most have reached 4 to 12 inches in height.

**Bursage, woolly-leaf** - 3-20 2%

For control, apply 2 quarts of this product plus 0.5 pound of dicamba per acre. For partial control, apply 1 quart of this product plus 0.5 pound of dicamba per acre. Apply when plants are producing new active growth that has been initiated by moisture for at least 2 weeks, and when plants are at or beyond flowering.

**Canarygrass, reed2** 2-3 3-40 2%

**Cattail2** 3-5 3-40 2%

**Clover; red or white'** 3-5 3-20 2%

Also for control, apply 16 to 32 fluid ounces of this product plus 0.5 to 1 pound of 2,4-D, in 3 to 10 gallons of water per acre.

**Cogongrass** 3-5 10-40 2%

Apply when cogongrass is at least 18 inches tall in late summer or fall. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to achieve control.

**Dallisgrass2** 3-5 3-20 2%

**Dandelion'** 3-5 3-40 2%

Also for control, apply 1 pint of this product plus 0.5 pound of 2,4-D, in 3 to 10 gallons of water per acre.

**Dock, curly'** 3-5 3-40 2%

Also for control, apply 1 to 2 pints of this product plus 0.5 to 1 pound of 2,4-D, in 3 to 10 gallons of water per acre.

**Dogbane, hemp** 4 3-40 2%

Apply when most plants have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to re-grow to a mature stage prior to treatment. For best results, apply in late summer or fall.

For suppression, apply 1 pint of this product plus 0.5 pound of 2,4-D, in 3 to 10 gallons of water per acre for ground application, and 3 to 5 gallons of water per acre for aerial application. Delay application until maximum emergence of dogbane has occurred.

Fescue (except tall)'	3-5	3-20	2%
Fescue, tall	1 -3	3-40	2%

Apply 3 quarts of this product per acre when most plants have reached boot to early seedhead stage of development.

For fall application, apply 1 quart of this product in 3 to 10 gallons of water per acre when plants have 6 to 12 inches of new growth. A sequential application of 1 pint of this product per acre will improve long-term control and control seedlings germinating after fall treatments or the following spring.

Guineagrass	2-3	3-40	1%
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Apply when most plants have reached at least the 7-leaf stage of growth. Ensure thorough coverage when using hand-held equipment. In Texas and ridge of Florida, use 2 quarts of this product per acre for control. In the flatwoods region of Florida, 3 quarts of this product per acre are required for control.

Horsenettle'	3-5	3-20	2%
Horseradish	4	3-40	2%

Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.

Iceplant'	-	-	1.5-2%
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Thorough coverage is necessary for best control.

Jerusalem artichoke'	3-5	3-20	2%
Johnsongrass	0.5 - 3	3-40	1 %

In annual cropping systems, apply 1 to 2 quarts of this product in 3 to 10 gallons of water per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per acre. In non-crop areas, or in areas where annual tillage is not practiced (no-till), apply 2 to 3 quarts of this product in 10 to 40 gallons of water per acre.

For best results, apply when most plants have reached the boot to head stage of development or in the fall prior to frost. Allow 7 or more days after application before tillage. Do not tank-mix with residual herbicides when applying 1 quart of this product per acre.

For burndown of Johnsongrass, apply 1 pint of this product in 3 to 10 gallons of water per acre before the plants reach a height of 12 inches. Allow at least 3 days after treatment before tillage.

For partial control or suppression, apply a 1-percent solution of this product as a spot treatment when Johnsongrass is 12 to 18 inches in height. Ensure that coverage is uniform and complete.

Kikuyugrass	2-3	3-40	2%
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Apply when most kikuyugrass is at least 8 inches in height (3- or 4-leaf stage of growth). Allow 3 or more days after application before tillage.

Knapweed	4	3-40	2%
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Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.

Lantana	-	-	1 -1.25%
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Apply at or beyond the bloom stage of growth.

Lespedeza'	3-5	3-20	2%
Milkweed, common	3	3-40	2%

Apply when most plants have reached the late bud to flower stage of growth.

Muhly, wirestem	1 -2	3-40	2%
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Apply 1 quart of this product in 3 to 10 gallons of water per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per acre or in pasture, sod, or non-crop areas. Apply when wirestem muhly is 8 inches or more in height. Do not till between harvest and fall application, or in the fall or spring prior to spring application. Allow 3 or more days after application before tillage.

Mullein, common'	3-5	3-20	2%
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Napiergrass2	3-5	3-20	2%
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<b>Nightshade, silverleaf</b>	2	3-10	2%
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For best results, apply when at least 60 percent of the plants have berries. Fall treatment must be made before a killing frost.

<b>Nutsedge, purple or yellow</b>	0.5 - 3	3-40	1 -2%
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Apply 3 quarts of this product per acre, or as a 1 to 2-percent solution, for control of nutsedge plants and immature nutlets attached to treated plants. Treat when plants are in flower or when new nutlets can be found at rhizome tips. Nutlets that have not germinated will not be controlled and may germinate after treatment. Repeat treatments will be required for long-term control of ungerminated tubers.

Sequential application of 1 to 2 quarts of this product in 3 to 10 gallons of water per acre after a majority of the plants are in the 3- to 5-leaf stage (less than 6 inches tall) will also provide control. Repeat this application as necessary when newly emerging plants reach the 3 to 5-leaf stage. Subsequent applications will be necessary for long-term control.

For partial control of existing plants, apply 1 pint to 2 quarts of this product in 3 to 40 gallons of water per acre when plants have 3 to 5 leaves and most are less than 6 inches tall. Repeat treatments will be required to control subsequent emerging plants or re-growth of existing plants.

<b>Orchardgrass</b>	1 -2	3-40	2%
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Apply 2 quarts of this product in 10 to 40 gallons of water per acre when most plants have reached the boot to early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre when plants are actively growing and most have reached 4 to 12 inches in height.

For orchardgrass sods going to no-till corn, apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre to orchardgrass that is a minimum of 12 inches tall for spring application, and 6 inches tall for fall application. Allow at least 3 days following application before planting. A sequential application of atrazine will be necessary for optimum results.

<b>Pampasgrass</b>	-	-	1.5-2%
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Apply when pampasgrass is at or beyond the boot stage of growth. Thorough coverage is necessary for best control.

<b>Paragrass2</b>	3-5	3-20	2%
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<b>Phragmites</b>	3-5	10-40	1 -2%
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For partial control and best results, treat during late summer or fall when plants are actively growing and in full bloom. Treatment before or after this stage could result in reduced control. Due to the dense nature of this vegetation, which may prevent good spray coverage, or uneven stages of growth, repeat treatments could be necessary to achieve control. Visual control symptoms will be slow to develop.

<b>Poison hemlock</b>	-	-	1 -2%
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With hand-held sprayers, apply as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth. Thorough coverage is necessary for best control.

<b>Pokeweed, common</b>	1	3-40	2%
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Apply to actively growing plants up to 24 inches tall.

<b>Quackgrass</b>	1 -3	3-40	2%
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In annual cropping systems, or in pastures and sods followed by deep tillage, apply 1 quart of this product in 3 to 10 gallons of water per acre, or 2 quarts in 10 to 40 gallons of water per acre. Do not tank-mix with residual herbicides when using the 1-quart rate. Spray when quackgrass is 6 to 8 inches in height. Do not till between harvest and fall application, or in the fall or spring prior to spring application. Allow 3 or more days after application before tillage. In pastures or sods, use a moldboard plow for best results.

In pastures, sods or non-crop areas where deep tillage does not follow application, apply 2 to 3 quarts of this product in 10 to 40 gallons of water per acre when quackgrass is greater than 8 inches tall.

**Redvine** 0.75 - 2 5-10 2%  
For suppression, make two applications of 1.5 pints of this product per acre 7 to 14 days apart or a single application of 2 quarts per acre. Apply these rates in 5 to 10 gallons of water per acre. Apply in late September or early October to plants that are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation and at least 1 week before a killing frost.

**Reed, giant** - - 2%

Best results are obtained when application is made in late summer or fall.

**Ryegrass, perennial** 1 -3 3-40 1%  
In annual cropping systems, apply 1 to 2 quarts of this product per acre in 3 to 10 gallons of water per acre, or 2 quarts of this product when applying 10 to 40 gallons of water per acre. In non-crop areas or areas where annual tillage is not practiced (no-till), apply 2 to 3 quarts of this product in 10 to 40 gallons of water per acre.

For best results, apply when most plants have reached the boot to head stage of development or in the fall prior to frost. Do not tank-mix with residual herbicides when applying 1 quart of this product per acre.

**Smartweed, swamp'** 3-5 3-40 2%

Also for control, apply 1 pint of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall.

**Sowthistle, perennial** 2-3 3-40 2%  
Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to application of this product. Fall treatment must be made before a killing frost. Allow 3 or more days after application before tillage.

**Spurge, leafy** - 3-10 2%  
For suppression, apply 1 pint of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre in late summer or fall. If mowing has occurred prior to treatment, apply when most plants are 12 inches tall.

**Starthistle, yellow** 2 10-40 2%  
Best results are obtained when application is made during the rosette, bolting or early flower stages.

**Sweet potato, wild** - - 2%  
For partial control, apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.

**Thistle, artichoke** - - 2%  
For partial control, apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.

**Thistle, Canada** 2-3 3-40 2%  
Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to application of this product. Fall treatment must be applied before a killing frost. Allow 3 or more days after application before tillage.

For suppression in the spring, apply 1 quart of this product alone, or 1 pint of this product plus 0.5 pound of 2,4-D, in 3 to 10 gallons of water per acre. Allow rosette re-growth to a minimum of 6 inches in diameter before treating. Application can be made as long as leaves are still green and plants are actively growing at the time of application. Allow 3 or more days after application before tillage.

**Timothy2** 2-3 3-40 2%

**Torpedograss** 4-5 3-40 2%

For partial control, apply when most plants are at or beyond the seedhead stage of development. Repeat applications will be required to achieve control. Fall treatment must be applied before frost.

**Trumpet creeper** 2 5-10 2%  
For partial control, apply in late September or October, to plants that are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Apply at least 1 week before a killing frost.

**Vaseygrass<sup>2</sup>** 3-5 3-20 2%

**Velvetgrass<sup>2</sup>** 3-5 3-20 2%

**Wheatgrass, western<sup>2</sup>** 2-3 3-40 2%

Apply when most plants have reached the early bud stage of growth.

<sup>2</sup> Apply when most plants have reached the early heading stage of growth.

## 16.0 WOODY BRUSH AND TREES RATE SECTION

Apply this product after full leaf expansion, unless otherwise directed. Use the higher rate for larger plants and/or dense areas of growth. On vines, use the higher rate for plants that have reached the woody stage of growth. Best results are obtained when application is made in late summer or fall after fruit formation.

In arid areas, best results are obtained when application is made in the spring to early summer when brush species are at high moisture content and are flowering.

Unless otherwise directed, apply broadcast treatments in 3 to 40 gallons of water per acre. Ensure thorough coverage when using hand-held equipment. Symptoms may not appear prior to frost or senescence with fall treatment.

Allow 7 or more days after application before tillage, mowing or removal. Repeat treatments may be necessary to control plants regenerating from underground parts or seed. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Reduced performance may result if fall treatment is made following a frost.

### WOODY BRUSH AND TREES RATE TABLE

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
Alder	3-4	3-40	1-1.5%
Ash <sup>1</sup>	2-5	3-40	1-2%
Aspen, quaking	2-3	3-40	1-1.5%
Bearmat (Bearclover) <sup>1</sup>	2-5	3-40	1-2%
Beech <sup>1</sup>	2-5	3-40	1-2%
Birch	2-3	3-40	1-1.5%
Blackberry	3-4	10-40	1-1.5%

Apply after plants have reached full leaf maturity. Best results are obtained when application is made in late summer or fall. Application may also be made after leaf drop and until a killing frost or as long as stems are green. After berries have set or dropped in late fall, blackberry can be controlled by applying a 0.75 percent solution of this product. For control of blackberries after leaf drop and until killing frost or as long as stems are green, apply 3 to 4 quarts of this product in 10 to 40 gallons of water per acre.

Blackgum	2-5	3-40	1-2%
Bracken	2-5	3-40	1-2%
Broom; French, Scotch	-	-	1.5-2%
Buckwheat, California <sup>2</sup>	-	-	1-2%
Cascara <sup>1</sup>	2-5	3-40	1-2%
Catsclaw <sup>1</sup>	-	-	1-1.5%
Ceanothus <sup>1</sup>	2-5	3-40	1-2%
Chamise <sup>2</sup>	-	-	1%
Cherry; bitter, black, pin	2-3	3-40	1-1.5%

Coyote brush			1.5-2%
Apply when at least 50 percent of the new leaves are fully developed.			
Dogwood'	2-5	3-40	1-2%
Elderberry	2-3	3-40	1-1.5%
Elm'	2-5	3-40	1-2%
Eucalyptus	-	-	2%
For control of eucalyptus re-sprouts, apply when re-sprouts are 6 to 12 feet tall. Ensure complete coverage. Avoid application to drought-stressed plants.			
Florida holly (Brazilian Peppertree)'	2-5	3-40	1-2%
Gorse'	2-5	3-40	1-2%
Hasardia' 2	-	-	1-2%
Hawthorn	2-3	3-40	1-1.5%
Hazel	2-3	3-40	1-1.5%
Hickory'	2-5	3-40	1-2%
Honeysuckle	3-4	3-40	1-1.5%
Hornbeam, American'	2-5	3-40	1-2%
Kudzu	4-5	3-40	2%
Repeat applications may be required to achieve control.			
Locust, black'	2-4	3-40	1-2%
Madrone resprouts'	-	-	2%
Apply to re-sprouts that are 3 to 6 feet tall. Best results are obtained with spring/early summer treatment.			
Manzanita'	2-5	3-40	1-2%
Maple, red	2-4	3-40	1-1.5%
Apply a 1 to 1.5-percent solution when at least 50 percent of the new leaves are fully developed. For partial control, apply 2 to 4 quarts of this product per acre.			
Maple, sugar	-	-	1-1.5%
Apply when at least 50 percent of the new leaves are fully developed.			
Monkey flower' 2	-	-	1-2%
Oak; black,white'	2-4	3-40	1-2%
Oak, post	3-4	3-40	1-1.5%
Oak; northern,	-	-	1-1.5%
Apply when at least 50 percent of the new pin leaves are fully developed			
Oak; southern red	2-3	3-40	1-1.5%
Persimmon'	2-5	3-40	1-2%
Pine	2-5	3-40	1-2%
Poison ivy/Poison oak	4-5	3-40	2%
Repeat applications may be required to achieve control. Fall treatment must be applied before leaves lose green color.			
Poplar, yellow'	2-5	3-40	1-2%
Redbud, eastern	2-5	3-40	1-2%
Rose, multiflora	2	3-40	1%
Treat prior to leaf deterioration by leaf-eating insects.			
Russian olive'	2-5	3-40	1-2%
Sage, black' '2	-	-	1%
Sage, white'	2-5	3-40	1-2%
Sage brush, California2	-	-	1%
Salmonberry	'2-3	3-40	1-1.5%

Salt-cedar	2-5	3-40	1-2%
Sassafras'	2-5	3-40	1-2%
Sourwood'	2-5	3-40	1-2%
Sumac; poison, smooth, winged'	2-4	3-40	1-2%
Sweetgum	2-3	3-40	1-1.5%
Swordfern'	2-5	3-40	1-2%
Tallowtree, Chinese <sup>2</sup>	-	-	1%
Tan oak resprouts'	-	-	2%
Apply to re-sprouts that are less than 3 to 6 feet tall. Best results are obtained with fall application.			
Thimbleberry	2-3	3-40	1-1.5%
Tobacco, tree'	-	-	1-2%
Trumpetcreeper	2-3	3-40	1-1.5%
Vine maple'	2-5	3-40	1-2%
Virginia creeper	2-5	3-40	1-2%
Waxmyrtle, Southern'	2-5	3-40	1-2%
Willow	3-4	3-40	1-1.5%

1 Partial Control

2 Thorough coverage of foliage is necessary for best results.

#### 17.0 LIMIT OF WARRANTY AND LIABILITY

REPAR CORPORATION warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for Use label booklet ("Directions") when used in accordance with those Directions under the conditions described therein. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and limitations stated herein.

Buyer and all users shall promptly notify this Company of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

To the extent consistent with applicable law, buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this Company, including, but not limited to, incompatibility with products other than those set forth in the Directions, application to or contact with desirable vegetation, failure of this product to control weed biotypes which develop resistance to glyphosate, unusual weather, weather conditions which are outside the range considered normal at the application site and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

This Company does not warrant any product reformulated or repackaged from this product except in accordance with this Company's stewardship requirements and with express written permission from this Company.

For in-crop (over-the-top) uses on Roundup Ready crops, crop safety and weed control performance are not warranted by REPAR CORPORATION when this product is used in conjunction with "brown bag" or "bin run" seed saved from previous year's production and replanted.





## II MAIN LABEL FOR INDUSTRIAL, TURF AND ORNAMENTAL USES

TOPDOG 41% PLUS

Herbicide

The complete broad-spectrum postemergence herbicide for non-crop, industrial, turf and ornamental weed control.

### Complete Directions for Use

EPA Reg. No. 69361-

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS), DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION IS LIKELY TO RESULT.

Read the entire label before using this product.

Use only according to label instructions.

Not all products listed on this label are registered for use in California. Check the registration status of each product in California before using.

Read the "LIMIT OF WARRANTY AND LIABILITY" statement at the end of the label before buying or using. If terms are not acceptable, return at once unopened.

THIS IS AN END-USE PRODUCT. REPAR CORPORATION DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION. SEE INDIVIDUAL CONTAINER LABEL FOR REPACKAGING LIMITATIONS.

[Optional Container Label Statement: THIS IS AN END-USE PRODUCT. REPAR CORPORATION DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION. REPACKAGING OF THIS PRODUCT FOR DISTRIBUTION OR SALE MAY BE CONDUCTED ONLY UNDER THE TERMS OF A WRITTEN CONTRACT WITH REPAR CORPORATION.]

[Optional Container Label Statement: THIS IS AN END-USE PRODUCT. REPAR CORPORATION DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION OR REPACKAGING.]

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### 1.0 INGREDIENTS

#### ACTIVE INGREDIENT:

\*Glyphosate, N-(phosphonomethyl)glycine, in the form of its isopropylamine salt ...

41.0%

OTHER INGREDIENTS: ...

59.0%

100.0%

\* Contains 480 grams per liter or 4 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its isopropylamine salt. Equivalent to 356 grams per liter or 3 pounds per U.S. gallon of the acid, glyphosate.

No license granted under any non-U.S. patent(s).

## 2.0 IMPORTANT PHONE NUMBERS

1. FOR PRODUCT INFORMATION OR ASSISTANCE IN USING THIS PRODUCT,  
CALL TOLL-FREE,

[1-301-562-7330]

3. IN CASE OF AN EMERGENCY INVOLVING THIS HERBICIDE PRODUCT, OR FOR MEDICAL  
ASSISTANCE, CALL COLLECT, DAY OR NIGHT,

[1-800-858-7378]

## 3.0 PRECAUTIONARY STATEMENTS

### 3.1 Hazards to Humans and Domestic Animals

Keep out of reach of children

## WARNING! AVISO!

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail)

CAUSES SUBSTANTIAL BUT TEMPORARY EYE INJURY

HARMFUL IF SWALLOWED OR INHALED

Do not get in eyes or on clothing.

Avoid breathing vapor or spray mist.

FIRST AID:	Call a poison control center or doctor for treatment advice
IF IN EYES	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.</li><li>• Remove contact lenses if present after the first 5 minutes then continue rinsing eye.</li></ul>
IF INHALED	<ul style="list-style-type: none"><li>• Move person to fresh air.</li><li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li></ul>
IF SWALLOWED	<ul style="list-style-type: none"><li>• Have person sip a glass of water if able to swallow.</li><li>• Do not induce vomiting unless told to by a poison control center or doctor.</li><li>• Do not give anything to an unconscious person.</li></ul>
<ul style="list-style-type: none"><li>• Have the product container or label with you when calling a poison control center or doctor, or going for treatment.</li><li>• You may also contact [1-800-858-7378], collect day or night, for emergency medical treatment information.</li><li>• This product is identified as TOPDOG 41% PLUS, EPA Registration No. 69361-.</li></ul>	

**DOMESTIC ANIMALS:** This product is considered to be relatively nontoxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

### Personal Protective Equipment (PPE)

Applicators and other handlers must wear: long-sleeved shirt and long pants, shoes plus socks, and protective eyewear. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such Master Label 69361-

instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

#### User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside.
- Then wash thoroughly and put on clean clothing.

### 3.2 Environmental Hazards

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

### 3.3 Physical or Chemical Hazards

Spray solutions of this product may be mixed, stored and applied using only stainless steel, fiberglass, plastic or plastic-lined steel containers.

DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. This product can only be used in accordance with the Directions for Use on this label or in separately published supplemental labeling. Supplemental labeling can be found on the Internet at [www.agrian.com](http://www.agrian.com), [www.cdms.net](http://www.cdms.net), or [www.greenbook.net](http://www.greenbook.net) websites, or obtained by contacting your authorized [REPAR CORPORATION] retailer or REPAR CORPORATION representative.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.

The following paragraph is reserved and will only appear on final printed labeling for products under this registration if and when required by EPA:

ENDANGERED SPECIES PROTECTION REQUIREMENTS: This product may have effects on federally listed threatened or endangered species or their critical habitat in some locations. When using this product, you must follow the measures contained in the Endangered Species Protection Bulletin for the county or parish in which you are applying the pesticide. To determine whether your county or parish has a Bulletin, and to obtain that Bulletin, consult <http://www.epa.gov/espp/> or call 1-800-447-3313 no more than 6 months before using this product. Applicators must use Bulletins that are in effect in the month in which the pesticide will be applied. New Bulletins will generally be available from the above sources 3 months prior to their effective dates.

#### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: coveralls, chemical resistant gloves greater than 14 mils in thickness composed of materials such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber, shoes plus socks and protective eyewear.

#### Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Keep people and pets off treated areas until spray solution has dried.

#### 4.0 STORAGE AND DISPOSAL

Proper pesticide storage and disposal are essential to protect against exposure to people and the environment due to leaks and spills, excess product or waste, and vandalism. Do not allow this product to contaminate water, foodstuffs, feed or seed by storage or disposal.

**PESTICIDE STORAGE:** Store pesticides away from food, pet food, feed, seed, fertilizers, and veterinary supplies. Keep container closed to prevent spills and contamination.

**PESTICIDE DISPOSAL:** To avoid wastes, use all material in this container, including rinsate, by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program. Such programs are often run by state or local governments or by industry. All disposal must be in accordance with applicable federal, state and local regulations and procedures.

**CONTAINER HANDLING AND DISPOSAL:** See container label for container handling and disposal instructions and refilling limitations.

[CONTAINER HANDLING AND DISPOSAL STATEMENTS AND REFILLING LIMITATIONS FOR CONTAINER LABELS:]

[CONTAINER HANDLING AND DISPOSAL STATEMENT AND REFILLING LIMITATION FOR NONREFILLABLE RIGID CONTAINERS OF LESS THAN 1-GALLON CAPACITY]

Nonrefillable container. Do not reuse or refill this container.

[Alternate container statement: Nonrefillable container. Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state.]

Triple rinse this container promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Then offer this container for recycling, if available. If recycling is not available, dispose of in accordance with federal, state and local regulations and procedures, which may include puncturing the properly

rinsed container and disposing in a sanitary landfill.

[Alternate container disposal statement: Once properly rinsed, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. [Optional container disposal statement: To find the nearest site, contact your chemical dealer or REPAR CORPORATION at [INSERT PHONE NUMBER].] If recycling is not available, dispose of in accordance with federal, state and local regulations and procedures, which may include puncturing the properly rinsed container and disposing in a sanitary landfill.]

[Optional container statement: This container is not to be sold to homeowners for residential use.]

[CONTAINER HANDLING AND DISPOSAL STATEMENT AND REFILLING LIMITATION FOR NONREFILLABLE RIGID PLASTIC 2.5-GALLON CONTAINERS AND OTHER CONTAINERS OF GREATER THAN 1-GALLON BUT EQUAL TO OR LESS THAN 5-GALLON CAPACITY]

Nonrefillable container. Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state.

[Alternate container statement: Nonrefillable container. Do not reuse or refill this container.]

Triple rinse or pressure rinse (or equivalent) this container promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Once properly rinsed, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. [Optional container disposal statement: To find the nearest site, contact your chemical dealer or REPAR CORPORATION at [1-301-562-7330].] If recycling is not available, dispose of in accordance with federal, state and local regulations and procedures, which may include puncturing the properly rinsed container and disposing in a sanitary landfill.

[Alternate container disposal statement: Then offer this container for recycling, if available. If recycling is not available, dispose of in accordance with federal, state and local regulations and procedures, which may include puncturing the properly rinsed container and disposing in a sanitary landfill.]

[Optional container statement: This container is not to be sold to homeowners for residential use.]

[CONTAINER HANDLING AND DISPOSAL STATEMENT AND REFILLING LIMITATION FOR NONREFILLABLE RIGID PLASTIC 30-GALLON CONTAINERS AND OTHER CONTAINERS OF GREATER THAN 5-GALLON CAPACITY]

Nonrefillable container. Do not reuse or refill this container.

[Alternate container statement: Nonrefillable container. Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state.]

Triple rinse or pressure rinse (or equivalent) this container promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end tip it back and forth several times. Empty

the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Once properly rinsed, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. [Optional container disposal statement: To find the nearest site, contact your chemical dealer or [REPAR CORPORATION] at [1-301-562-7330].] If recycling is not available, dispose of in accordance with federal, state and local regulations and procedures, which may include puncturing the properly rinsed container and disposing in a sanitary landfill.

[Alternate container disposal statement: Then offer this container for recycling, if available. If recycling is not available, dispose of in accordance with federal, state and local regulations and procedures, which may include puncturing the properly rinsed container and disposing in a sanitary landfill.]

[Optional container label statement: Return Properly Rinsed Container to Monsanto for Recycling Contact: 1-800-ROUNDUP (1-800-768-6387)]

#### [CONTAINER HANDLING AND DISPOSAL STATEMENT AND REFILLING LIMITATION FOR ALL REFILLABLE CONTAINERS, EXCEPT TRANSPORT CONTAINERS]

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose.

Cleaning this container before refilling is the responsibility of the refiller. Cleaning this container before final disposal is the responsibility of the person disposing of the container.

To clean this container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer this container for recycling, if available.

[Optional container label statement: To obtain information about recycling refillable containers, contact REPAR CORPORATION at [1-301-562-7330]]

[Optional container label statement: Return Properly Rinsed Container for Recycling,

#### [CONTAINER HANDLING AND DISPOSAL STATEMENT FOR ALL TRANSPORT CONTAINERS AS DEFINED IN 40 CFR 156.3]

Emptied container retains vapor and product residue. Observe all precautions stated on this label until the container is cleaned, reconditioned or destroyed. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, and worn-out threads and closures. Clean thoroughly before reuse for transportation of a material of different composition or before retiring this transport vehicle from service.

## 5.0 PRODUCT INFORMATION

Product Description: This product is a postemergence, systemic herbicide with no soil residual activity. It gives broad-spectrum control of many annual weeds, perennial weeds, woody brush and trees. It is formulated as a water-soluble liquid containing surfactant.

Time to Symptoms: This product moves through the plant from the point of foliage contact to and into the root system. Visual effects are a gradual wilting and yellowing of the plant that advances to complete browning of above ground growth and deterioration of underground plant parts. Effects are visible on most annual weeds within 2 to 4 days, but on most perennial weeds may not occur for 7 or more days. Extremely cool or cloudy weather following treatment may slow activity of this product and delay development of visual symptoms.

Stage of Weeds: Annual weeds are easiest to control when they are small. Best control of most

perennial weeds is obtained when treatment is made at later growth stages approaching maturity.

**Mode of Action in Plants:** The active ingredient in this product inhibits an enzyme found only in plants and microorganisms that is essential to the formation of specific amino acids.

**Cultural Considerations:** Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed or cut, and have not been allowed to re-grow to the specified stage for treatment.

**Rainfastness:** Heavy rainfall soon after application may wash this product off of the foliage and a repeat application may be required for adequate control.

**No Soil Activity:** Weeds must be emerged at the time of application to be controlled by this product. Weeds germinating from seed after application will not be controlled. Plants arising from unattached underground rhizomes or rootstocks of perennials that have not yet emerged at the time of application will not be affected by the herbicide and will continue to grow.

**Biological Degradation:** Degradation of this product is primarily a biological process carried out by soil microbes.

**Maximum Application Rates:** The maximum application or use rates stated throughout this label are given in units of volume (fluid ounces, pints or quarts) of this product per acre. However, the maximum allowed application rates apply to this product combined with the use of any and all other herbicides containing the active ingredient glyphosate, whether applied separately or as tank mixtures, on a basis of total pounds of glyphosate (acid equivalents) per acre. If more than one glyphosate-containing product is applied to the same site within the same year, you must ensure that the total use glyphosate (pounds acid equivalents) does not exceed the maximum allowed. See the "INGREDIENTS" section of this label for necessary product information.

#### ATTENTION

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.

Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended. The likelihood of injury occurring from the use of this product increases when winds are gusty, as wind velocity increases, when wind direction is constantly changing or when there are other meteorological conditions that favor spray drift. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) that are likely to drift. AVOID APPLYING AT EXCESSIVE SPEED OR PRESSURE.

NOTE: Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or have other unintended consequences.

#### 5.1 Weed Resistance Management

Glyphosate, the active ingredient in this product, is a Group 9 herbicide based on the mode of action classification system of the Weed Science Society of America. Any weed population may contain plants naturally resistant to Group 9 herbicides. Weed species resistant to Group 9 herbicides may be effectively managed utilizing another herbicide from a different Group or by using other cultural or mechanical practices.

To minimize the occurrence of glyphosate-resistant biotypes observe the following weed management practices:

- Scout your application site before and after herbicide application.
- Control weeds early when they are relatively small.
- Incorporate other herbicides and cultural or mechanical practices as part of your weed control system where appropriate.



- Use the application rate for the most difficult to control weed on the site. Avoid tank mixtures with other herbicides that reduce the efficacy of this product (through antagonism) or with ones that encourage application rates of this product below those specified on this label.
- Control weed escapes and prevent weeds from setting seeds.
- Use new commercial seed that is as free of weed seed as possible.

Report any incidence of repeated non-performance of this product on a particular weed to your REPAR CORPORATION representative, local retailer, or county extension agent.

## 5.2 Management of Glyphosate-Resistant Biotypes

Note: Appropriate testing is critical in order to confirm weed resistance to glyphosate. Contact your REPAR CORPORATION representative to determine if resistance in any particular weed biotype has been confirmed in your area. Directions for the control of biotypes confirmed to be resistant to glyphosate are made available on separately published supplemental labeling or Fact Sheets for this product and can be obtained from your local retailer or REPAR CORPORATION representative.

Since the occurrence of new glyphosate-resistant weeds cannot be determined until after product use and scientific confirmation, REPAR CORPORATION is not responsible for any losses that may result from the failure of this product to control glyphosate-resistant weed biotypes.

The following good agronomic practices can reduce the spread of confirmed glyphosate-resistant biotypes:

- If a naturally occurring resistant biotype is present in your field, this product can be tank-mixed or applied sequentially with an appropriately labeled herbicide with a different mode of action to achieve control.
- Cultural and mechanical control practices may also be used as appropriate.
- Scout treated sites after herbicide application and control escapes of resistant biotypes before they set seed.
- Thoroughly clean equipment before a site known to contain resistant biotypes.

## 6.0 MIXING

Spray solutions of this product may be mixed, stored, and applied using only clean stainless steel, plastic, fiberglass, plastic or plastic-lined steel containers. Clean sprayer parts promptly after using this product by thoroughly flushing with water. Use caution to avoid siphoning back into the carrier source. Use approved anti-back-siphoning devices where required by state or local regulations.

### 6.1 Mixing with Water

NOTE: PRODUCT PERFORMANCE MAY BE SIGNIFICANTLY REDUCED IF WATER CONTAINING SOIL SEDIMENT IS USED AS A CARRIER. DO NOT MIX THIS PRODUCT WITH WATER FROM PONDS AND DITCHES THAT IS VISIBLY MUDDY OR MURKY.

This product mixes readily with water. Mix spray solutions of this product as follows: Begin filling the mixing tank or spray tank with clean water. Add the required amount of this product near the end of the filling process and mix well. During mixing and application, foaming of the spray solution may occur. To prevent or minimize foaming, mix gently, terminate by-pass and return lines at the bottom of the tank and, if necessary, use an anti-foam or defoaming agent.

### 6.2 Tank-Mixing

This product does not provide residual weed control. This product may be tank-mixed with other herbicides to provide residual weed control, a broader weed control spectrum or an alternate mode of action. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used. Use according to the most restrictive precautionary statements for each product in the mixture.

When this label lists a tank mixture with a generic active ingredient such as diuron, atrazine, 2,4-D, or dicamba, the user is responsible for ensuring that the specific application being made is included on the label of the product being used in the tank mixture. Refer to all individual product labels, supplemental

labeling and Fact Sheets for all products in the tank mixture and observe all precautions and limitations on the label, including application timing restrictions, soil restrictions and use according to the most restrictive precautionary statements for each product in the tank mixture. Always predetermine the compatibility of all tank-mix products together in the carrier by mixing small proportional quantities in advance.

Buyer and all users are responsible for any and all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not expressly specified on this label. Mixing this product with herbicides or other materials not specified on this label may result in reduced performance.

### 6.3 Tank-Mixing Procedure

When tank-mixing, read and carefully observe label directions, cautionary statements and all information on the labels of all products used. Add the tank-mix product to the tank as directed by the label. Maintain agitation and add the required amount of this product. If needed, add nonionic surfactant before completing the filling process.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation may be required to re-suspend the mixture before spraying is resumed.

Keep by-pass line on or near the bottom of the tank to minimize foaming. Screen size in nozzle or line strainers can be no finer than 50 mesh.

Always predetermine the compatibility of labeled tank mixtures of this product with water carrier by mixing small proportional quantities in advance.

Refer to the "Tank Mixing" and "PRODUCT INFORMATION" sections for additional precautions.

### 6.4 Mixing for Hand-Held Sprayers

Prepare the desired spray volume by mixing the amount of this product indicated in the following table in water:

#### Spray Solution

#### Amount of TOPDOG 41% PLUS

Desired Volume	0.5%	1%	1.5%	2%	5%	10%
1 gal	0.7 oz	1.3 oz	2 oz	2.7 oz	6.5 oz	13 oz
25 gal	1 pt	1 qt	1.5 qt	2qt	5qt	10 qt
100 gal	2 qt	1 gal	1.5 gal	2 gal	5 gal	10 gal

2 tablespoons = 1 fluid ounce

For backpack, knapsack or pump-up sprayers, consider mixing the appropriate amount of this product with water in a larger container, and then filling the sprayer from the larger container.

### 6.5 Surfactants

Nonionic surfactants (NIS) or wetting agents that have at least 70 percent active ingredient and are labeled for use with herbicides may be added to the spray solution, unless otherwise directed. Do not reduce rates of this herbicide when adding surfactants. Read and carefully observe cautionary statements and other information appearing on the additives label.

### 6.6 Colorants or Dyes

Colorants or marking dyes may be added to spray solutions of this product; however, they can reduce product performance, especially at lower rates or dilution. Use colorants or dyes according to the manufacturer's directions.

## 7.0 APPLICATION EQUIPMENT AND TECHNIQUES

Do not apply this product through any type of irrigation system. Avoid direct application to any body of water.

APPLY SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES.

Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended.

### SPRAY DRIFT MANAGEMENT

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

### AERIAL SPRAY DRIFT MANAGEMENT

The following drift management requirements must be followed to avoid off-target drift movement from aerial application.

1. The distance of the outermost nozzles on the boom must not exceed  $\frac{3}{4}$  the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they must be observed.

#### Importance of Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see the "Wind", "Temperature and Humidity", and "Temperature Inversion" sections of this label).

#### Controlling Droplet Size

- Volume: Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with the higher rated flows produce larger droplets.
- Pressure: Use the lower spray pressures listed for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- Number of nozzles: Use the minimum number of nozzles that provide uniform coverage.
- Nozzle orientation: Orienting nozzles so that the spray is released backwards, parallel to the airstream, will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- Nozzle type: Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.
- Boom length: For some use patterns, reducing the effective boom length to less than  $\frac{3}{4}$  of the wingspan or rotor length may further reduce drift without reducing swath width.
- Application height: Applications must not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces the exposure of the droplets to evaporation and wind.

#### Swath Adjustment

When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Increase the swath adjustment distance with increasing drift potential (higher

wind, smaller droplets, etc.).

#### Wind

Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application must be avoided below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator must be familiar with local wind patterns and how they affect drift.

#### Temperature and Humidity

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

#### Temperature Inversions

Applications must not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sunsets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

#### Sensitive Areas

Apply this product only when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

#### 7.1 Aerial Equipment

DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDITIONS AS SPECIFIED WITHIN THIS LABEL.

FOR AERIAL APPLICATION IN CALIFORNIA, REFER TO THE FEDERAL SUPPLEMENTAL LABEL FOR AERIAL APPLICATION OF THIS PRODUCT IN THAT STATE FOR SPECIFIC INSTRUCTIONS, RESTRICTIONS AND REQUIREMENTS.

TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

Use the labeled rates of this herbicide in 3 to 25 gallons of water per acre unless otherwise specified on this label, or in separate supplemental labeling or Fact Sheets published for this product.

Drift reduction additives may be used. When a drift reduction additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

Ensure uniform application. To avoid streaked, uneven or overlapped application, use appropriate marking devices.

Aircraft Maintenance; Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of this product accumulated during spraying or from spills. PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. LANDING GEAR IS MOST SUSCEPTIBLE. Maintaining an organic coating (paint) that meets aerospace specification MIL-C-38413 may prevent corrosion.

#### 7.2 Ground Broadcast Equipment

Apply the labeled rates of this product in 3 to 40 gallons of water per acre as a broadcast spray unless otherwise specified on this label or in separate supplemental labeling or Fact Sheets published for this product. As the density of weeds increases, increase the spray volume within the labeled range to ensure complete coverage. Carefully select proper nozzles to avoid spraying a fine mist. For best results with ground application equipment, use flat-fan nozzles. Check spray pattern for uniform distribution of spray droplets.

### 7.3 Hand-Held or Backpack Equipment

Apply to foliage of vegetation to be controlled on a spray-to-wet basis; do not spray to the point of runoff. For best results, ensure that spray coverage is uniform and complete. Use coarse sprays only.

For low-volume directed spray application, ensure that at least 50 percent of the foliage is treated. Coverage of the top one-half of the plant is important for best results. To ensure adequate spray coverage, spray both sides of large or tall woody brush and trees, when foliage is thick and dense, or where there are multiple sprouts.

### 7.4 Selective Equipment

This product may be diluted in water and applied through shielded applicators, hooded sprayers, wiper applicators or sponge bars to weeds listed on this label that are growing in any specified non-crop site.

#### AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION

Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations or when the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatment may be necessary.

#### Shielded and Hooded Applicators

A shielded or hooded applicator directs the herbicide solution onto weeds, while shielding desirable vegetation from the herbicide. Use nozzles that provide uniform coverage within the treated area. Keep shields on these sprayers adjusted to protect desirable vegetation. **EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.**

#### Wiper Applicators

Wiper applicators are devices that physically wipe the appropriate amounts of this product directly onto the weed. Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation.

Adjust the height of the wiper applicator to ensure adequate contact with weeds and so that the contact point is at least 2 inches above the desirable vegetation. Better results can be obtained when more of the weed is exposed to the herbicide solution and weeds are a minimum of 6 inches above the desirable vegetation. Weeds not contacted by the herbicide solution will not be affected. Poor contact can occur when weeds are growing in dense clumps, in severe weed infestations or when weed height varies dramatically. In these instances, repeat treatments may be necessary.

Operate this equipment at ground speeds no greater than 5 miles per hour. Performance may be improved by reducing speed in areas of heavy weed infestation to provide adequate wiper saturation with the herbicide solution. Better results may be obtained when two applications are made in opposite directions.

Droplets, mist, foam or splatter of the herbicide solution settling onto desirable vegetation may result in discoloration, stunting or destruction. Avoid leakage or dripping onto desirable vegetation. Keep wiping surfaces clean. Be aware that on sloping ground the herbicide solution may migrate, causing dripping on the lower end and drying of the wicks on the upper end of the wiper applicator.

Do not use wiper applicators when weeds are wet.

Mix only the amount of this product to be used during a 1-day period, as reduced product performance may result from the use of solutions held in storage. Clean wiper parts immediately after using this product by thoroughly flushing with water.

For Rope or Sponge Wick Applicators - Solutions ranging from 33 to 75 percent of this product in water may be used.

For Panel Applicators and Pressure-feed Systems - Solutions ranging from 33 to 100 percent of this product in water may be used.

When applied as directed, this product CONTROLS the following weeds:

Corn, volunteer	Sicklepod
Panicum, Texas	Spanishneedles
Rye, common	Starbur, bristly
Shattercane	

When applied as directed, this product SUPPRESSES the following weeds:

Beggarweed, Florida	Ragweed, common
Bermudagrass	Ragweed, giant
Dogbane, hemp	Smutgrass
Dogfennel	Sunflower
Guineagrass	Thistle, Canada
Johnsongrass	Thistle, musk
Milkweed	Vaseygrass
Nightshade, silverleaf	Velvetleaf
Pigweed, redroot	

## 7.5 Injection Systems

This product may be used in aerial or ground injection spray systems. It may be used as a liquid concentrate or diluted prior to injecting into the spray stream. Do not mix this product with the undiluted concentrate of other products when using injection systems unless specifically directed.

## 7.6 CDA Equipment

The rate of this product applied per acre by controlled droplet application (CDA) equipment must not be less than the amount specified on this label when applied by conventional broadcast equipment. For vehicle-mounted CDA equipment, apply 2 to 15 gallons of water per acre.

CDA equipment produces a spray pattern that is not easily visible. Extreme care must be exercised to avoid spray or drift contacting the foliage or any other green tissue of desirable vegetation, as damage or destruction is likely to result.

## 8.0 SITE AND USE INSTRUCTIONS

This product may be used in non-crop areas including airports, apartment complexes, commercial sites, ditch banks, driveways, dry ditches, fencerows, golf courses, greenhouses, industrial sites, landscape areas, lumber yards, manufacturing sites, municipal sites, natural areas, office complexes, ornamentals, parks, parking areas, pastures, petroleum tank farms and pumping installations, public areas, railroads, rangeland, recreation areas, residential areas, rights-of-way, roadsides, schools, shadehouses, sports complexes, storage areas, substations, turfgrass areas, utility sties, warehouse areas and wildlife management areas.

This product may also be used in non-food crops sites such as Christmas tree farms, plant nurseries, and sod or turf seed farms.

Unless otherwise specified, applications may be made to control any weeds listed in the "WEEDS CONTROLLED" section of this label.

### 8.1 Cut Stump

Cut stump treatments may be made on any site listed on this label. This product will control many types of woody brush and tree species. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or re-sprouts close to the soil surface. Apply a 50 to 100-percent solution of this product to the freshly-cut surface immediately after cutting. Delays in application may result in reduced performance. For best results, apply during periods of active growth and full leaf expansion.

DO NOT MAKE CUT STUMP APPLICATIONS WHEN THE ROOTS OF DESIRABLE WOODY BRUSH OR TREES MAY BE GRAFTED TO THE ROOTS OF THE CUT STUMP. Some sprouts, stems, or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems/trees when one or more trees sharing common roots are treated.

### 8.2 Forestry Site Preparation

This product may be used for the control or partial control of woody brush, trees and herbaceous weeds

in forestry in preparing or establishing wildlife openings within these sites and maintaining logging roads.

This product may be used in site preparation prior to planting any tree species, including Christmas trees, eucalyptus, hybrid tree cultivars and silvicultural nursery sites.

Refer to the "WEEDS CONTROLLED" section of this label for specific application rates and instructions. Use the higher rates of this product within the specified range for control or partial control of woody brush, trees and hard-to-control perennial herbaceous weeds. For best results, apply to actively growing woody brush and trees after full leaf expansion and before fall color and leaf drop. Increase rates within the specified range for control of perennial herbaceous weeds any time after emergence and before seedheads, flowers or berries appear.

Use the lower rates of this product within the specified range for control of annual herbaceous weeds and actively growing perennial herbaceous weeds after seedheads, flowers or berries appear. Apply to the foliage of actively growing annual herbaceous weeds any time after emergence.

This product has no herbicidal or residual activity in the soil.

Unless otherwise directed, do not apply this product as an over-the-top broadcast spray for forestry conifer or hardwood release.

**TANK MIXTURES:** Tank mixtures of this product may be used to increase the spectrum of vegetation controlled. When tank-mixing, read and carefully observe the label claims, cautionary statements and all information on the labels of all products used. Use according to the most restrictive precautionary statements for each product in the mixture.

**NOTE:** For forestry site preparation, make sure the tank-mix product is approved for use prior to planting the desired species. Observe planting interval restrictions.

This product may be used in a tank-mix with the following products for forestry site preparation.

Arsenal Applicators Concentrate  
Chopper  
Escort or Escort XP  
Garlon 3A  
Garlon 4A  
Landmark XP  
Oust or Oust XP  
Westar

For control of herbaceous weeds, use the lower specified tank mixture rates. For control of dense stands or tough-to-control woody brush and trees, use the higher application rates.

### 8.3 Use Areas and Industrial Sites

#### Weed Control, Trim-and-Edge, Bare Ground

This product may be used in non-crop and non-food areas. It may be applied with any application equipment described in this label. This product may be used to trim-and-edge around objects in these sites, for spot treatment of unwanted vegetation and to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting an area, to ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects.

Repeated applications of this product may be used, as weeds emerge, to maintain bare ground.

**TANK MIXTURES:** This product may be tank-mixed with the following products, provided that the specific product is labeled for application at the use site. Refer to the individual product labels for approved sites and application rates.

2,4-D'	Goal 2XL	Princep 4L
Arsenal	Karmex DF	Princep DF
atrazine'	Krovar I DF	Ronstar 50WP
Barricade 65WG	Landmark II MP	Sahara
Crossbow L	Milestone	simazine'
dicamba'	Oust XP	Surflan AS
diuron'	Outrider	Surfan WDG
Endurance	Pendulum WDG	Telar
Escort	Pendulum 3.3 EC	Transline
Escort XP	pendimethalin'	Vanquish
Gallery 75 DF	Plateau	Velpar DF
Garlon 4	Poast	Velpar L
Garlon 3A	Landmark XP	Certainty
Landmark MP		

Tank mixtures with products containing this single active ingredient may be made provided the specific product is labeled for application at the use site

This product plus dicamba tank mixtures may not be applied by air in California.

When applied as a tank mixture for bare ground, this product provides control of the emerged annual weeds and control or partial control of emerged perennial weeds, woody brush and trees.

For control or partial control of the following perennial weeds, apply 1 to 2 quarts of this product plus 2 to 4 ounces of Oust XP per acre.

Bahiagrass	Johnsongrass
Bermudagrass	Poorjoe
Broomsedge	Quackgrass
Dallisgrass	Vaseygrass
Dock, curly	Vervain, blue
Dogfennel	
Fescue, tall	

#### Chemical Mowing - Perennials

This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Use 8 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass, quackgrass or reed canarygrass covers. Use 6 fluid ounces of this product per acre when treating Kentucky bluegrass. Apply treatments in 10 to 40 gallons of spray solution per acre.

Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

#### Chemical Mowing - Annuals

For growth suppression of some annual grasses, such as annual ryegrass, wild barley and wild oats growing in coarse turf on roadsides or other industrial areas, apply 4 to 5 fluid ounces of this product in 10 to 40 gallons of spray solution per acre. For best results, Apply when annual grasses are actively growing and before the seedheads are in the boot stage of development. Treatments may cause injury to the desired grasses.

#### 8.4 Turfgrass

This product may be used to control or suppress many winter annual weeds and tall fescue for effective release of dormant Bermudagrass and bahiagrass turf. Treat only when turf is dormant and prior to spring green-up.

Apply 8 to 64 fluid ounces of this product per acre. Apply the labeled rates in 10 to 40 gallons of water per acre. Use only in areas where bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated.

Treatments in excess of 16 fluid ounces per acre may result in injury or delayed green-up in highly maintained areas, such as golf courses and lawns. DO NOT apply tank mixtures of this product plus Oust XP in highly maintained turfgrass areas.

Actively Growing Bermudagrass



This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. DO NOT apply more than 16 fluid ounces of this product per acre in highly maintained turfgrass areas. DO NOT apply tank mixtures of this product plus Oust XP in highly maintained turfgrass areas. Use only in areas where some temporary injury or discoloration can be tolerated.

#### Turfgrass Renovation, Seed or Sod Production

This product controls most existing vegetation prior to renovating turfgrass areas or establishing turfgrass grown for seed or sod. For maximum control of existing vegetation, delay planting or sodding to determine if any re-growth from escaped underground plant parts occurs. Where repeat treatments are necessary, sufficient re-growth must be attained prior to application. For warm-season grasses such as bermudagrass, summer or fall applications provide the best control. Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray.

Desirable turfgrasses may be planted following the above procedures.

Hand-held equipment may be used for spot treatment of unwanted vegetation growing in existing turfgrass. Broadcast or hand-held equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.

**PRECAUTIONS, RESTRICTIONS:** Do not disturb soil or underground plant parts before treatment. Delay tillage or renovation techniques such as vertical mowing, coring or slicing for 7 days after application to allow translocation into underground plant parts. If application rates total 3 quarts per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate was greater than 3 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

### 8.5 Habitat Management

#### Habitat Restoration and Management

This product may be used to control exotic and other undesirable vegetation in habitat management and natural areas, including rangeland and wildlife refuges. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broad-spectrum vegetation control requirements. Spot treatments can be made to selectively remove unwanted plants for habitat management and enhancement.

#### Wildlife Food Plots

This product may be used as a site preparation treatment prior to planting wildlife food plots. Any wildlife food species may be planted after applying this product, or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait 7 days after application before tillage to allow translocation into underground plant parts.

### 8.6 Hollow Stem Injection

This product may be applied through hand-held injection devices that deliver the proper amount of this product into targeted hollow-stem plants growing in any non-crop site specified on this label.

For control of the following hollow-stem plants, follow the use instructions below:

Castorbean, *Ricinus communis*

Inject 4 milliliters of this product per plant into the lower portion of the main stem.

Hemlock, Poison, *Conium maculatum*

Inject one leaf cane per plant 10 to 12 inches above the root crown with 5 milliliters of a 5-percent (by volume) solution of this product.

Hogweed, Giant, *Hercleum mantegazzianum*

Inject one leaf cane per plant 12 inches above the root crown with 5 milliliters of a 5-percent (by volume) solution of this product.

Horsetail, Field, *Equisetum arvense*

Inject one segment above the root crown with 0.5 milliliter of this product per stem. Use a low-volume

syringe capable of accurately delivering this amount of product.

Knotweed, Bohemian, *Polygonum bohemicum*

Inject 5 milliliters of this product per stem between the second and third internode.

Knotweed, Giant, *Polygonum sachalinense*

Inject 5 milliliters of this product per stem between the second and third internode.

Knotweed, Japanese, *Polygonum cuspidatum*

Inject 5 milliliters of this product per stem between the second and third internode.

Reed, Giant, *Arundo donax*

Inject 6 milliliters of this product per stem between the second and third internode.

Thistle, Canada, *Cirsium arvense*

Cut 8 to 9 of the tallest plants at bud stage in a clump with clippers. Use a cavity needle that is pushed into the stem center and then slowly removed as 0.5 milliliter of this product per stem is injected into the stem.

Note: The combined total for all treatments must not exceed 10.6 quarts of this product per acre. At 5 milliliters per stem, 7 quarts will treat approximately 1300 stems per acre.

#### 8.7 Injection and Frill (Woody Brush and Trees)

This product may be used to control woody brush and trees by injection or frill applications. Apply this product using suitable equipment that must penetrate into the living tissue. Apply the equivalent of 0.04 fluid ounce (1 milliliter) of this product for every 2 to 3 inches of trunk diameter at breast height (DBH). This is best achieved by applying a 50 to 100-percent concentration of this product either to a continuous frill around the tree or as cuts evenly spaced around the tree below all branches. As tree diameter increases in size, better results are achieved by applying diluted material to a continuous frill or more closely spaced cuttings. Avoid application techniques that allow runoff to occur from frilled or cut areas in species that exude sap freely. In species such as this, make the frill or cuts at an oblique angle to produce a cupping effect and use a 100-percent concentration of this product. For best results, apply during periods of active growth and after full leaf expansion.

#### 8.8 Non-food Tree, Shrub, and Vine Production Sites

This product may be used for weed control prior to planting or around established ornamentals, or any woody tree, shrub, or vine species, including arborvitae, azalea, boxwood, crabapple, eucalyptus, euonymus, fir, Douglas fir, jojoba, hollies, lilac, magnolia, maple, oak, poplar, privet, pine, spruce or yew, growing in plant nurseries, on Christmas tree farms, or on other non-food tree production site.

UNLESS OTHERWISE DIRECTED, DO NOT USE THIS PRODUCT AS AN OVER-THE-TOP BROADCAST SPRAY IN ORNAMENTALS AND CHRISTMAS TREES. Care must be taken to avoid contact of spray, drift or mist with foliage or bark of desirable ornamental species.

This product may be used to control weeds growing in and around greenhouses and shadehouses. Desirable vegetation must not be present during application and air circulation fans must be turned off until after the application has dried.

TYPES OF APPLICATION: Site Preparation, Post-directed, Trim-and-edge, Wiper Application

##### Site Preparation

This product may be used prior to planting any tree, shrub, or vine, including Christmas tree species, in a nursery or production setting.

##### Post-directed, Trim-and-Edge

This product may be used as a post-directed spray around established woody ornamental species, or to trim and edge around trees, buildings, sidewalks, roads, potted plants and other objects in a production setting.

Desirable plants may be protected from the spray solution by using shields or coverings made of cardboard or other impermeable material.

##### Wiper Application

This product may be used through wick or other suitable wiper applicators to control or partially control undesirable vegetation around established trees, shrubs, or vines. See the "SELECTIVE EQUIPMENT"

section of this label for further information about the proper use of wiper applicators.

#### 8.9 Parks, Recreational and Residential Areas

All of the instructions in the "Use Areas and Industrial Sites" section may be made in park and recreational areas.

This product may be used in parks, recreational and residential areas. It may be applied with any application equipment described in this label. This product may be used to trim-and-edge around trees, fences, paths, around buildings, sidewalks and other objects in these areas. This product may be used for spot treatment of unwanted vegetation. This product may be used to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting an area to ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects.

#### 8.10 Railroads

All of the instructions in the "Use Areas and Industrial Sites" section may be made to railroads.

##### Bare Ground, Ballast and Shoulders, Crossings, Spot Treatment

This product may be used to maintain bare ground on railroad ballast and shoulders. Repeat applications of this product may be used, as weeds emerge, to maintain bare ground. This product may be used to control tall-growing weeds to improve line-of-sight at railroad crossings and reduce the need for mowing along rights-of-way. For crossing applications, up to 80 gallons of spray solution per acre may be used.

**TANK MIXTURES:** This product may be tank mixed with the following products for ballast, shoulder, spot, bare ground and crossing treatments, provided that the specific product is labeled for use on these sites. Refer to the individual product labels for approved sites and application rates.

Arsenal	Oust XP
atrazine'	Outrider
dicamba'	Sahara DG
diuron'	simazine'
Escort	Spike 80 DF
Escort XP	Telar DF
Garlon 3A	Transline
Garlon 4	Vanquish
Hyvar X	Velpar DF
Hyvar X-L	Velpar L
Krovar I DF	2,4-D'
Oust	

' Tank mixtures with products containing this single generic active ingredient may be made provided the specific product is registered for this use.

##### Brush Control

This product may be used to control woody brush and trees on railroad rights-of-way. Apply 4 to 20 quarts of this product per acre as a broadcast spray, using boom-type or boomless nozzles. Up to 80 gallons of spray solution per acre may be used. Apply a 0.75- to 2-percent solution of this product when using high-volume spray-to-wet applications. Apply a 5- to 10-percent solution of this product when using low volume directed sprays for spot treatment.

**TANK MIXTURES:** This product may be mixed with the following products for ballast, shoulder, spot, bare ground and crossing treatments, as well as for enhanced control of woody brush and trees, provided that the specific product is labeled for use on these sites. Refer to the individual product labels for approved sites and application rates.

Arsenal	atrazine
dicamba	diuron'
Escort	Escort XP
Garlon 3A	Garlon 4
Hyvar X	Hyvar X-L
Krovar I DF	Outrider
Oust XP	simazine

Sahara DG  
Spike 80 DF  
Transline  
Velpar DF

Telar DF  
Vanquish  
Velpar L  
2,4-D'

' Tank mixtures with products containing this single generic active ingredient may be made provided the specific product is registered for this use.

#### Bermudagrass Release

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. Apply 1 to 3 pints of this product in up to 80 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species.

Bahiagrass	Johnsongrass
Bluestem, silver	Trumpet creeper
Fescue, tall	Vaseygrass

This product may be tank-mixed with Oust XP. If tank-mixed, use no more than 1 to 3 pints of this product with 1 to 2 ounces of Oust XP per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Oust XP label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds.

Bahiagrass	Fescue, tall
Blackberry	Johnsongrass
Bluestem, silver	Poorjoe
Broomsedge	Raspberry
Dallisgrass	Trumpet creeper
Dewberry	Vaseygrass
Dock, curly	Vervain, blue
Dogfennel	

Use only on well-established bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Make only one application per growing season, as severe bermudagrass injury may occur with repeated application.

#### 8.11 Roadsides

All of the applications in the "Use Areas and Industrial Sites" section may be made along roadsides.

##### Shoulder Treatments

This product may be used on road shoulders. It may be applied with boom sprayers, shielded boom sprayers, high-volume off-center nozzles, hand-held equipment, and similar equipment.

##### Guardrails, Other Obstacles to Mowing

This product may be used to control weeds growing under guardrails and around signposts and other objects along the roadside.

##### Spot Treatment

This product may be used as a spot treatment to control unwanted vegetation growing along roadsides.

TANK MIXTURES: This product may be tank-mixed with the following products for shoulder, guardrail, spot and bare ground treatments, provided that the specific product used is labeled for use on these sites. Refer to the individual product labels for approved sites and application rates.

atrazine'	Outrider
Clarity	Pendulum 3.3 EC
Crossbow L	Pendulum WDG
dicamba'	Plateau
diuron'	Princep DF
Endurance	Princep 4L
Escort	Ronstar 50WP
Escort XP	Sahara

Gallery 75DF	simazine'
Krovar I DF	Surflan
Landmark II MP	Telar
Landmark MP	Vanquish
Landmark XP	2,4-D'
Oust XP	

Tank mixtures with products containing this single generic active ingredient may be made provided the specific product is registered for this use.

#### Release of Bermudagrass or Bahiagrass

##### Dormant Applications

This product may be used to control or partially control many winter annual weeds and tall fescue for effective release of dormant bermudagrass or bahiagrass. Treat only when turf is dormant and prior to spring green-up. This product may also be tank-mixed with Outrider or Oust XP for residual control. Tank mixtures of this product with Oust or Oust XP may delay green-up.

For best results on winter annuals, treat when plants are in an early growth stage (below 6 inches in height) after most have germinated. For best results on tall fescue, treat when fescue is at or beyond the 4- to 6-leaf stage.

Apply 8 to 64 fluid ounces of this product in a tank mix with 0.75 to 1.3 ounces of Outrider herbicide per acre. Read and follow all label directions for Outrider herbicide.

Apply 8 to 64 fluid ounces of this product per acre alone or in a tank mixture with 0.25 to 1 ounce per acre of Oust XP in 10 to 40 gallons of water per acre. Use only in areas where bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated. To avoid delays in green-up and minimize injury, add no more than 1 ounce of Oust XP per acre on bermudagrass and no more than 0.5 ounce of Oust XP per acre on bahiagrass and avoid treatments when these grasses are in a semi-dormant condition.

##### Actively Growing Bermudagrass

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. Apply 1 to 3 pints of this product in 10 to 40 gallons of water per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species.

Bahiagrass	Johnsongrass
Bluestem, silver	Trumpet creeper
Fescue, tall	Vaseygrass

This product may be tank-mixed with Outrider herbicide for control or partial control of Johnsongrass and other weeds listed on the Outrider label. Use 9 to 32 fluid ounces of this product with 0.75 to 1.3 ounces of Outrider per acre. Use the higher rates of both products for control of perennial weeds or annual weeds greater than 6 inches in height.

This product may be tank-mixed with Oust XP. If tank-mixed, use no more than 1 to 2 pints of this product with 1 to 2 ounces of Oust XP per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Oust XP label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds.

Bahiagrass	Fescue, tall
Bluestem, silver	Johnsongrass
Broomsedge	Poorjoe
Dallisgrass	Trumpet creeper
Dock, curly	Vaseygrass
Dogfennel	Vervain, blue

Use only on well-established bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Make only one application of this tank-mix per growing season, as severe bermudagrass injury may occur with repeated application.

### Actively Growing Bahiagrass

For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 6 fluid ounces of this product in 10 to 40 gallons of water per acre. Apply 1 to 2 weeks after full green-up or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence.

For suppression up to 120 days, apply 4 fluid ounces of this product per acre, followed by an application of 2 to 4 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

This product may be used for control or partial control of Johnsongrass and other weeds listed on the Outrider herbicide label. Use 6 fluid ounces of this product with 0.75 to 2 ounces of Outrider per acre. Use the higher rates for control of perennial weeds or annual weeds greater than 6 inches in height. Use only on well-established bahiagrass.

A tank mixture of this product plus Oust XP may be used. Apply 6 fluid ounces of this product plus 0.25 ounce of Oust XP per acre 1 to 2 weeks following an initial spring mowing. Make only one application per year.

### 8.12 Rangelands

This product will control or suppress many annual weeds growing in perennial cool and warm-season grass rangelands, pastures, and industrial sites. Preventing weed seed production is critical to the successful control of annual grassy weeds invading these perennial grass sites. Follow-up applications in sequential years can eliminate most of the viable seeds. Delay grazing in the treated area to allow desirable perennials to grow, flower and re-seed the area.

**Bromus:** This product may be used to control or suppress downy brome (*Bromus tectorum*), Japanese brome (*Bromus japonicus*), soft chess (*Bromus mollis*), cheatgrass (*Bromus secalinus*), cereal rye and jointed goatgrass found in rangelands pastures and industrial sites. Apply 8 to 16 fluid ounces of this product per acre on a broadcast basis.

For best results, allow treatment to coincide with early seedhead emergence of the most mature plants. Delaying the application until this growth stage will maximize the emergence of other weedy grass flushes. Make applications to the same site each year until seed banks are depleted and the desirable perennial grasses can become re-established on the site.

**Medusahead:** To control or suppress medusahead, apply 16 fluid ounces of this product per acre at the 3-leaf stage when plants are actively growing. Delaying applications beyond this stage will result in reduced or unacceptable control. Repeat applications in subsequent years may be necessary to eliminate the seedbank before re-establishing desirable perennial grasses. Applications may be made in the fall or spring.

Applications may be made using ground or aerial equipment. Aerial applications for these uses may be made using fixed wing or helicopter equipment. For aerial applications, apply in 2 to 10 gallons of water per acre. For applications using ground equipment, apply in 10 to 20 gallons of water per acre.

#### Spot Treatment, Wiper Application

This product may be applied in rangeland, pastures or industrial sites as a spot treatment, or over the top of desirable grasses using wiper applicators to control tall weeds. Applications may be repeated in the same area at 30-day intervals.

For spot treatments or wiper application methods using rates of 3 quarts of this product per acre or less, the entire site or any portion of it may be treated. When spot treatments or wiper applications are made using rates above 3 quarts of this product per acres, no more than 10 percent of the total site may be treated at any one time. To achieve maximum performance, remove domestic livestock before application and wait 7 days after application before grazing livestock or harvesting for feed.

### 8.13 Utility Sites

In utilities, this product may be used along electrical power, pipeline and telephone rights-of-way, and in other sites associated with these rights-of-way, such as substations, roadsides, railroads or similar rights-of-way that run in conjunction with utilities.

This product may be used in utility sites and substations for bare ground, trim-and-edge around objects,

spot treatment of unwanted vegetation and to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting a utility site to ornamentals, flowers, turfgrass (sod or seed), or beginning construction projects.

Repeated applications of this product may be used, as weeds emerge, to maintain bare ground.

This product may also be used in preparing or establishing wildlife openings within these sites, maintaining access roads and for side trimming along utility rights-of-way.

For control of herbaceous weeds, use the lower tank mixture rates. For control of dense stands or tough-to-control woody brush and trees, use the higher rates.

**TANK MIXTURES:** This product may be tank-mixed with the following products for use on utility sites, provided that the specific product used is labeled for use on these sites. Refer to the individual product labels for approved sites and application rates.

2,4-D'	Outrider
Arsenal	pendimethalin'
atrazine'	Plateau
Barricade 65WG	Ronstar 50WP
dicamba'	Sahara
diuron'	simazine'
Endurance	Surflan AS
Escort	Surflan WDG
Escort XP	Telar DF
Garlon 3A2	Transline
Garlon 43	Vanquish
Krenite	Velpar DF
Krovar I DF	Velpar L
Oust	
Oust XP	

Tank mixtures with products containing this single generic active ingredient may be made provided the specific product is registered for this use.

2 Ensure that Garlon 3A is thoroughly mixed with water according to label directions before adding this product. Have spray mixture agitating at the time this product is added to avoid spray incompatibility problems.

3 For side trimming treatments, use this product alone or in a tank mixture with Garlon 4.

#### 8.14 Grass Seed or Sod Production

This product may be used in grass seed and sod production for preplant, at-planting, preemergence, removal of established stands, renovation, site preparation, shielded spraying, wiper application, spot treatment, and creating rows in annual ryegrass.

#### Preplant, Preemergence, At-Planting, Removal of Established Stands, Renovation, Site Preparation

This product controls most existing vegetation for purposes of renovating turf or forage grass seed areas or for establishing turfgrass grown for sod. It may also be used to destroy remaining undesired grass vegetation when production fields are converted to alternate species or crops. Make applications before, during, or after planting, or for renovation purposes. For maximum control of existing vegetation, delay planting to determine if any re-growth from escaped underground plant parts occurs. Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the herbicide spray. Where repeat treatments are necessary, sufficient re-growth must be attained prior to application. For warm-season grasses, such as bermudagrass, summer or fall applications provide best control. Broadcast equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested. Application rates up to 5 quarts per acre may be used to totally remove established stands of tough to kill grass species.

Do not disturb soil or underground plant parts before treatment. Delay tillage or renovation techniques such as vertical mowing, coring or slicing for 7 days after application to allow proper translocation into

underground plant parts. If application rates total 3 quarts per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 3 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

#### Shielded Sprayers

Apply 1 to 3 quarts of this product in 10 to 20 gallons of water per acre to control weeds between grass seed rows. Uniform planting in straight rows aids in shielded sprayer applications. Best results are obtained when the grass seed crop is small enough to easily pass by the protective shields.

Contact of this product in any manner with desirable vegetation may result in discoloration, stunting or destruction. Such damage shall be the sole responsibility of the applicator.

#### Wiper Application

This product may be applied over the top of desirable grasses using wiper applicators for the control of tall weeds.

Contact of this product in any manner with desirable vegetation may result in discoloration, stunting or destruction. Such damage shall be the sole responsibility of the applicator.

#### Spot Treatment

Apply a 1.5-percent solution of this product using hand-held spray equipment to control weeds within established vegetation prior to heading of grasses grown for seed. Hand-held equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.

The crop sprayed in the treated area will be killed. Take care not to spray or allow spray to drift outside the target area in order to avoid unwanted grass injury or destruction.

#### Creating Rows in Annual Ryegrass

Apply 1 to 2 pints of this product per acre. Best results are obtained when applications are made before the ryegrass reaches 6 inches in height. Use the higher rate within this specified range when ryegrass is greater than 6 inches in height.

Set nozzle heights to allow the establishment of the desired row spacing. Use of low-pressure nozzles, or drop nozzles designed to target the application over a narrow band provide the best results.

Take care not to spray or allow spray to drift outside target area in order to avoid unwanted grass destruction.

Grower assumes all responsibility for crop losses resulting from misapplication of this product.

#### 8.15 Pastures

This product may be applied to any pasture grass (other than food crops in the Gramineae family), including bahiagrass, bermudagrass, bluegrass, brome, fescue, guineagrass, kikuyugrass, orchardgrass, pangola grass, ryegrass, timothy, and wheatgrass. Application can be made as a spot treatment, wiper application, preplant, preemergence, pasture renovation, or postemergent broadcast.

##### Preplant, Preemergence, Pasture Renovation

This product may be applied for weed control prior to planting or emergence of forage grasses. This product may also be applied to control perennial pasture species listed on this label prior to replanting.

If application rates total 3 quarts per acre or less, no waiting period between treatment and feeding livestock grazing is required. If the rate is greater than 3 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

##### Spot Treatment, Wiper Application

This product may be applied in pastures as a spot treatment, or over the top of desirable grasses using wiper applicators to control tall weeds. Applications may be repeated in the same area at 30-day intervals.

For spot treatments or wiper application methods using rates of 3 quarts of this product per acre or less, the entire field or any portion of it may be treated. When spot treatments or wiper application are made using rates above 3 quarts of this product per acre, no more than 10 percent of the total pasture may be treated at any one time. To achieve maximum performance, remove domestic livestock before application and wait 7



days after application before grazing livestock or harvesting for feed.

#### Postemergent Weed Control (Broadcast Treatments)

This product may be applied to pastures to suppress competitive growth and seed production of annual weeds and undesirable vegetation in pastures. For selective applications with broadcast spray equipment, apply 12 to 16 fluid ounces of this product per acre in early spring before desirable perennial grasses break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy.

Some stunting of perennial grasses will occur if broadcast applications are made when plants are not dormant. Use of higher application rates will cause stand reductions. No waiting period is required between application and grazing or harvesting for feed. Do not apply more than 3 quarts of this product per acre per year onto pasture grasses except for renovation uses as described previously in this section.

#### Weed Control in Dormant Pastures

This product may be applied to dormant pastures to suppress competitive growth and seed production of annual weeds and other undesirable vegetation. For selective weed control, apply 12 to 16 fluid ounces of this product per acre using broadcast spray equipment in early spring before desirable perennial grasses break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy.

Some stunting of perennial grasses will occur if broadcast applications are made when plants are not dormant. Use of higher application rates will cause stand reductions. No waiting period between application and grazing or harvesting for feed is required. Do not apply more than 3 quarts of this product per acre per year onto pasture grasses except for renovation purposes.

### 9.0 WEEDS CONTROLLED

Always use the higher rate of this product per acre within the specified range when weed growth is heavy or dense or weeds are growing in an undisturbed (non-cultivated) area.

Reduced results may occur when treating weeds heavily covered with dust. For weeds that have been mowed, grazed or cut, allow re-growth to occur prior to treatment.

Refer to the following label sections for application rates of this product for the control of annual and perennial weeds and woody brush and trees. For difficult to control perennial weeds and woody brush and trees, where plants are growing under stressed conditions, or where infestations are dense, this product may be used at 5 to 10 quarts per acre for enhanced results.

#### 9.1 Annual Weeds

Use 1 quart per acre if weeds are less than 6 inches in height or runner length and 1.5 quarts to 4 quarts per acre if weeds are over 6 inches in height or runner length or when weeds are growing under stressed conditions. Use the higher rate for tough-to-control species regardless of the weed size at application. Treat tough-to-control weeds early when they are relatively small. This product may be tank mixed provided the tank-mix product is labeled for use on the target site. Refer to the individual product labels for approved sites and application rates.

For spray-to-wet applications, apply a 0.5-percent solution of this product to weeds less than 6 inches in height or runner length. For annual weeds over 6 inches tall, or for smaller weeds growing under stressed conditions, use a 1- to 2-percent solution. Use the higher rate for tough-to-control species or for weeds over 24 inches tall. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds.

For low volume directed spray applications, use a 4- to 7-percent solution of this product. Ensure that spray coverage is uniform with at least 50 percent of the foliage contacted. Coverage of the top one half of the plant is important for best results. To ensure adequate spray coverage, spray both sides of large or tall weeds when foliage is thick and dense or where there are multiple spouts.

## WEED SPECIES

Anoda, spurred	Lamb's-quarters*
Barley*	Little barley*
Barnyardgrass*	London rocket*
Bittercress*	Mayweed
Bassia, fivehook	Medusahead*
Black nightshade*	Morningglory ( <i>Ipomoea spp</i> )
Bluegrass, annual*	Mustard, blue*
Bluegrass, bulbous*	Mustard, tansy*
Brome, downy*	Mustard, tumble*
Brome, Japanese*	Mustard, wild*
Browntop panicum*	Oats
Buttercup*	Pigweed*
Carolina foxtail*	Plains/Tickseed coreopsis*
Carolina geranium	Prickly lettuce*
Castor bean	Puncturevine
Cheatgrass*	Purslane, common
Cheeseweed ( <i>Malva parviflora</i> )	Ragweed, common*
Chervil*	Ragweed, giant
Chickweed*	Red rice
Cocklebur*	Russian thistle
Copperleaf, hophornbeam	Rye*
Corn*	Rye*
Corn speedwell*	Ryegrass*
Crabgrass*	Sandbur, field*
Dwarf dandelion*	Shepherd's-purse*
Eastern manna grass*	Sicklepod
Eclipta*	Signalgrass, broadleaf*
Fall panicum*	Smartweed, lady thumb*
Falsedandelion*	Smartweed, Pennsylvania*
False flax, small seed*	Sowthistle, annual
Fiddleneck	Sowthistle, annual
Field pennycress*	Spanish needles
Filaree	Speedwell, purslane*
Fleabane, annual*	Sprangletop*
Fleabane, hairy ( <i>Conyza bonariensis</i> )*	Spurge, annual
Fleabane, rough*	Spurge, prostrate*
Florida pulley	Spurge, spotted*
Foxtail*	Spurry, umbrella*
Goatgrass, jointed*	Starthistle, yellow
Goosegrass	Stinkgrass*
Grain sorghum (milo)*	Sunflower*
Groundsel, common*	Teaweed/ Prickly sida
Hemp sesbania	Texas panicum*
Henbit	Velvetleaf
Horseweed/Marestail ( <i>Conyza canadensis</i> )	Virginia copperleaf
Itchgrass*	Virginia pepperweed*
Johnsongrass, seedling	Wheat*
Junglerice	Wild oats*
Knotweed	Witchgrass*
Kochia	Woolly cupgrass*
	Yellow rocket

### 9.2 Perennial Weeds

Best results are obtained when perennial weeds are treated after they reach the reproductive stage of growth (seedhead initiation in grasses and bud formation in broadleaves). For non-flowering plants, best results are obtained when the plants reach a mature stage of growth. In many situations, treatments are required prior to these growth stages. Under these conditions, use the higher application rate.

Ensure thorough coverage when using spray-to-wet treatments with hand-held equipment. For best results, use a 1.5-percent solution on tough to control weeds such as Bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle.

For low volume directed spray applications, use a 5- to 10-percent solution of this product. Spray coverage should be uniform with at least 50 percent of the foliage contacted. Coverage of the top one half of the plant is important for best results. To ensure adequate spray coverage, spray both sides of large or tall weeds when foliage is thick and dense or where there are multiple sprouts.

for

**A**

**B**

**C**

**D**

**E**

**F**

**G**

**H**

**I**

**J**

**K**

**L**

**M**

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**P**

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**R**

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**V**

**X**

**Z**

### 9.3 Woody Brush and Trees

Apply this product after full leaf expansion, unless otherwise directed on this label, or in separate supplemental labeling or Fact Sheets published for this product. Use the higher rate for larger plants and/or dense areas of growth. On vines, use the higher rate for plants that have reached the woody stage of growth. Best results are obtained when application is made in late summer or fall after fruit formation.

In arid areas, best results are obtained when applications are made in the spring to early summer when brush species are at high moisture content and are flowering.

For best results when using hand-held equipment, use a 1.5-percent solution on harder-to-control woody brush and trees.

For low volume directed-spray applications, apply a 5 to 10-percent solution of this product. Ensure that spray coverage is uniform with at least 50-percent of the foliage contacted. Coverage of the top one-half of the plant is important for best results. To ensure adequate spray coverage, spray both sides of large or tall woody brush and trees, when foliage is thick and dense, or where there are multiple spouts.

Symptoms may not appear prior to frost or senescence with fall treatments.

Allow 7 or more days after application before tillage, mowing or removal. Repeat treatments may be necessary to control plants regenerating from underground parts or seed. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Reduced performance may result if fall treatments are made following a frost.

WEED SPECIES	Broadcast Rate (QT/A)	Hand-Held Spray-to-Wet % Solution
Alder	3-4	1-1.5
Ash*	2-5	1-2
Aspen, quaking	2-3	1-1.5
Bearclover (Bearmat)*	2-5	1-2
Beech*	2-5	1-2
Birch	2	1
Blackberry	3-4	1-1.5
Blackgum	2-5	1-2
Bracken	2-5	1-2
Broom; French, Scotch	2-5	1.5-2
Buckwheat, California*	2-4	1-2
Cascara*	2-5	1-2
Catsclaw*	-	1 - 1.5
Ceanothus*	2-5	1-2
Chamise*	2-5	1
Cherry; bitter, black, pin	2-3	1-1.5
Coyote brush	3-4	1.5 - 2
Deerweed	2-5	1
Dogwood*	2-5	1-2
Elderberry	2	1
Elm*	2-5	1-2
Eucalyptus	-	2
Gorse*	2-5	1-2
Hasardia*	2-4	1-2
Hawthorn	2-3	1-1.5
Hazel	2	1
Hickory*	2-5	1-2
Honeysuckle	3-4	1-1.5
Hornbeam, American*	2-5	1-2
Kudzu	4	2
Locust, black*	2-4	1-2
Madrone resprouts*	-	2
Manzanita*	2-5	1-2
Maple, red	2-4	1 - 1.5

Maple, sugar	-	1-1.5
Monkey flower*	2-4	1-2
Oak; black, white*	2-4	1-2
Oak, post	3-4	1-1.5
Oak; northern, pin	2-4	1-1.5
Oak, Scrub*	2-4	1-1.5
Oak; southern red	2-3	1-1.5
Peppertree, Brazilian (Florida holly)*	2-5	1-2
Persimmon*	2-5	1-2
Pine	2-5	1-2
Poison ivy	4-5	2
Poison oak	4-5	2
Poplar, yellow*	2-5	1-2
Redbud, eastern	2-5	1-2
Rose, multiflora	2	1
Russian olive*	2-5	1-2
Sage, black	2-4	1
Sage, white*	2-4	1-2
Sage brush, California	2-4	1
Salmonberry	2	1
Saltcedar*	2-5	1-2
Sassafras*	2-5	1-2
Sourwood*	2-5	1-2
Sumac; laurel, poison, smooth, sugarbush, winged*	2-4	1-2
Sweetgum	2-3	1-1.5
Swordfern*	2-5	1-2
Tallowtree, Chinese	-	1
Tan oak resprouts*	-	2
Thimbleberry	2	1
Tobacco, tree*	2-4	1-2
Toyon*	-	2
Trumpet creeper	2-3	1-1.5
Vine maple*	2-5	1-2
Virginia creeper	2-5	1-2
Waxmyrtle, southern*	2-5	1-2
Willow	3	1
Yerbabenta*	-	2

\* Partial control

#### 10.0 LIMIT OF WARRANTY AND LIABILITY

REPAR CORPORATION warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for Use label booklet ("Directions") when used in accordance with those Directions under the conditions described therein. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and limitations stated herein.

Buyer and all users shall promptly notify this Company of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

To the extent consistent with applicable law, buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this Company, including, but not limited to, incompatibility with products other than those set forth in the Directions, application to, or contact with desirable vegetation, failure of this product to control weed biotypes which develop resistance to glyphosate, unusual weather, weather conditions which are outside the range considered normal at the application site and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

This Company does not warrant any product reformulated or repackaged from this product except in accordance with this Company's stewardship requirements and with express written permission from this Company.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF THIS COMPANY OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF THIS COMPANY OR ANY OTHER SELLER, THE REPLACEMENT OF SUCH QUANTITY, OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY. TO THE FULLEST EXTENT PERMITTED BY LAW, IN NO EVENT SHALL THIS COMPANY OR ANY OTHER SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES.

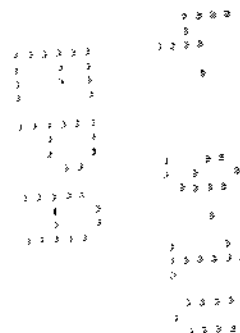
Upon opening and using this product, buyer and all users are deemed to have accepted the terms of this LIMIT OF WARRANTY AND LIABILITY which may not be varied by any verbal or written agreement. If terms are not acceptable, return at once unopened.

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Other trademarks are the property of their respective owners.

EPA Reg. No. 69361-

REPAR CORPORATION  
P.O. Box 4321  
Silver Spring, MD 20914



### III. SUPPLEMENTAL LABELING

#### Table of Contents

Name	
A	USE IN DORMANT ALFALFA
B	CONTROL OF ANNUAL WEEDS IN COASTAL BERMUDAGRASS PASTURES PRIOR TO SPRING GROWTH OR IMMEDIATELY AFTER FIRST CUTTING
C	DISTRIBUTION AND USE ONLY WITHIN SOUTH DAKOTA, FOR NON-SELECTIVE CONTROL OF LISTED ANNUAL WEEDS IN SMALL GRAIN CROPPING SYSTEMS
D	CONTROL AND MANAGEMENT OF GLYPHOSATE-RESISTANT HORSEWEED (MARESTAIL, <i>Coryza canadensis</i> ) IN CROP AND NON-CROP AREAS
E	LIMITATIONS ON AERIAL APPLICATION IN CALIFORNIA ONLY, INCLUDING FRESNO COUNTY, CALIFORNIA
F	AERIAL APPLICATION IN ARKANSAS ONLY
G	CONTROL OF BARNYARDGRASS ( <i>ECHINOCHLOA CRUS-GALLI</i> ) IN RICE USING RENOVATION TREATMENT IN CALIFORNIA ONLY
H	USE IN ROUNDUP READY ALFALFA SEED PRODUCTION
I	APPLICATION TO ROUNDUP READY FLEX COTTON IN THE STATE OF ARIZONA ONLY
J	BROADCAST APPLICATION IN CHRISTMAS TREE PLANTATIONS
K	SELECTIVE WEED CONTROL ON TOPDOG 41% PLUS-TOLERANT PURE GOLD® TALL FESCUE AND AURORA GOLD® FINE FESCUE SELECTIONS
L	TANK MIXTURES FOR TOUGH TO CONTROL WEEDS
M	GROUND AND AERIAL APPLICATION TO BRUSH AND CHAPARRAL IN CALIFORNIA ONLY
N	CONIFER RELEASE
O	CONTROL AND MANAGEMENT OF GLYPHOSATE-RESISTANT AMARANTHUS spp. IN CORN, COTTON, AND SOYBEAN
P	CONTROL AND MANAGEMENT OF GLYPHOSATE-RESISTANT RYEGRASS
Q	CONTROL AND MANAGEMENT OF GLYPHOSATE-RESISTANT COMMON AND GIANT RAGWEED ( <i>Ambrosia</i> spp.) IN CORN, COTTON AND SOYBEAN
R	CONTROL AND MANAGEMENT OF GLYPHOSATE-RESISTANT JOHNSONGRASS IN CORN, COTTON AND SOYBEAN
S	FOLIAR AND BROADCAST TREATMENT OF JAPANESE KNOTWEED AND ORIENTAL BITTERSWEET

## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR TOPDOG 41% PLUS BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using TOPDOG 41% PLUS as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container and on this supplemental labeling. This supplemental labeling must be in the possession of the user at the time of pesticide application.

### TOPDOG 41% PLUS

Herbicide

EPA Reg. No. 69361-

[INSERT TITLE OF SUPPLEMENTAL LABEL]

Keep out of reach of children

### WARNING! AVISO!

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail)

In case of an emergency involving this product, call collect, day or night, call CHEMTREC 1-800-424-9300.

TOPDOG 41% PLUS is a registered trademark of REPAR CORPORATION.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This labeling must be in the possession of the user at the time of herbicide application.

[For uses other than on Roundup Ready crops: AVOID CONTACT OF THIS HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY CROPS), DESIRABLE PLANTS AND TREES, AS SEVERE INJURY OR DESTRUCTION MAY RESULT.]

[Optional text for uses on Roundup Ready crops only. ROUNDUP READY CROPS CONTAIN A PATENTED GENE THAT PROVIDES TOLERANCE TO GLYPHOSATE, THE ACTIVE INGREDIENT IN THIS PRODUCT. THIS PRODUCT WILL CAUSE SEVERE CROP INJURY OR DESTRUCTION AND YIELD LOSS IF APPLIED TO CROPS THAT ARE NOT GLYPHOSATE TOLERANT. AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, OR ANY DESIRABLE PLANTS THAT DO NOT CONTAIN A GLYPHOSATE TOLERANCE GENE, AS SEVERE PLANT INJURY OR DESTRUCTION MAY RESULT.]

[Optional text for non-crop uses only. AVOID CONTACT OF HERBICIDE WITH FOLIAGE, STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.]

[For uses other than on Roundup Ready crops: See "PRODUCT INFORMATION" and "MIXING" sections of the label booklet for TOPDOG 41% PLUS for essential product information.]

[Optional text for uses on Roundup Ready crops only. See the "PRODUCT INFORMATION", "MIXING" and "ROUNDUP READY CROPS" sections of the label booklet for TOPDOG 41% PLUS for essential product information.]



[INSERT SPECIFIC DIRECTIONS FOR USE TEXT FROM THE FOLLOWING SECTIONS HERE]

Read the "Limit of Warranty and Liability" in the label booklet for TOPDOG 41% PLUS before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

REPAR CORPORATION  
P.O. Box 4321  
Silver Spring, MD 20914

## A. USE IN DORMANT ALFALFA

### DIRECTIONS FOR USE

This product will control or suppress many weeds, including quackgrass, downy brome and cheatgrass in dormant alfalfa.

Apply 8 to 12 fluid ounces of this product per acre. Apply in the spring to alfalfa that is dormant. Apply after spring temperatures have warmed enough to encourage resumption of weed growth, but prior to initiation of trifoliate leaf expansion of alfalfa. Application made after expansion of the first trifoliate leaf of the alfalfa will cause growth reduction and reduced crop yield.

Do not use ammonium sulfate when spraying dormant alfalfa with TOPDOG 41% PLUS.

Do not use this product where a slight yield reduction in the first cutting of alfalfa cannot be tolerated. Do not make more than one application per year.

Allow 36 hours after application before grazing livestock or harvesting.

Slight discoloration of the alfalfa may occur, but the alfalfa will re-green and re-grow under moist soil conditions as effects of this product wear off.

Application of this product is limited to persons who have attended an approved training program. Application of this product can cause crop injury. Any crop injury is the sole responsibility of the applicator.

## B. CONTROL OF ANNUAL WEEDS IN COASTAL BERMUDAGRASS PASTURES PRIOR TO SPRING GROWTH OR IMMEDIATELY AFTER FIRST CUTTING

### DIRECTIONS FOR USE

This product may be applied at 16 fluid ounces per acre to control the weeds listed below and most other winter annual grass and broadleaf weeds in established coastal bermudagrass pastures.

Annual bluegrass

Johnsongrass, seedling

Sandbur, field

Cheat

Little barley

Sunflower

Crabgrass

Oats

Wheat

Henbit

Ryegrass, Italian

Wild mustard

### TIMING OF APPLICATION

Application prior to spring growth: Apply this product in either late winter or early spring, but before new coastal bermudagrass growth begins in the spring. Application to new growth can damage the bermudagrass.

Remove domestic livestock from the pasture before making the application. Wait 60 days after making this application before grazing or harvesting the treated area.

Application following the first cutting: Apply this product after the first bermudagrass cutting when the bermudagrass has not yet begun to re-grow. Application made after re-growth has begun can damage the bermudagrass.

Remove domestic livestock from the pasture before making the application. Wait 28 days after making this application before grazing or harvesting the treated area.

NOTE: ONLY ONE APPLICATION PER YEAR MAY BE MADE TO ANY ONE FIELD. A SPRING APPLICATION PRIOR TO GROWTH AND AN APPLICATION FOLLOWING THE FIRST CUTTING MAY NOT BE MADE ON THE FIELD DURING THE SAME YEAR.

### C. DISTRIBUTION AND USE ONLY WITHIN SOUTH DAKOTA, FOR NON-SELECTIVE CONTROL OF LISTED ANNUAL WEEDS IN SMALL GRAIN CROPPING SYSTEMS

#### DIRECTIONS FOR USE

Refer to the TOPDOG 41% PLUS label for application rates and weeds controlled.

For ground application, apply in 3 to 5 gallons of water per acre. For aerial application, apply in 2 to 3 gallons of water per acre.

#### ATTENTION

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.

Do not allow the herbicide solution to mist, drip, drift, or splash onto desirable vegetation since minute quantities of this herbicide can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended. The likelihood of injury occurring from the use of this product is greatest when winds are gusty or in excess of 5 miles per hour or when other conditions, including lesser wind velocities, will allow spray drift to occur. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) that are likely to drift. AVOID APPLYING AT EXCESSIVE SPEED OR PRESSURE.

NOTE: To prevent injury to adjacent desirable vegetation, appropriate buffer zones must be maintained. Adjust boom height on ground equipment to prevent streaked, overlapped or uneven application. Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations that dispense spray as fine spray droplets.

For aerial application, do not angle nozzles forward into the airstream, and do not increase spray volume by increasing nozzle pressure.

Ensure uniform application. Use appropriate marking devices when applying herbicides by air.

Avoid spraying when weeds are subject to moisture stress, when dust is on foliage, or when straw canopy covers the weeds.

Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residue of this product accumulated during spraying or from spills. PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF PART.

LANDING GEAR IS MOST SUSCEPTIBLE. The maintenance of an organic coating (paint) that meets aerospace specification MIL-C-38413 may prevent corrosion.

### D. CONTROL AND MANAGEMENT OF GLYPHOSATE-RESISTANT HORSEWEED (MARESTAIL, *Conyza canadensis*) IN CROP AND NON-CROP AREAS

#### DIRECTIONS FOR USE

For ground application, apply in 10 to 20 gallons of water per acre. For aerial application, apply in 3 to 15 gallons of water per acre.

For tank mixtures, read and carefully observe the cautionary statements and all other information appearing on the product labels, supplemental labeling and/or Fact Sheets published separately for all herbicides used.

## CORN

### Preplant, At-Planting, Preemergence

Apply a tank mixture of this product (32 fluid ounces per acre) plus 2,4-D (0.5 pound active ingredient per acre) before horseweed exceeds 6 inches in height. See the 2,4-D product label for time intervals that are required between application and planting.

Dicamba may be included in the tank mixture with this product. Refer to the dicamba product label for the time intervals that are required between application and planting, and other geographic use restrictions.

Atrazine (1 to 2 pounds active ingredient per acre) may be included in the tank mixture to provide residual control. Refer to the atrazine product label for specific use instructions.

### In-crop (Corn Hybrids with Roundup Ready® 2 Technology only)

Corn hybrids with Roundup Ready 2 Technology include Roundup Ready Corn 2 and seed products displaying the Roundup Ready 2 Technology logo.

Apply a tank mixture of this product (32 fluid ounces per acre) plus Clarity (8 to 16 fluid ounces per acre) or 2,4-D (0.5 to 1.0 pound active ingredient per acre) between corn emergence and the 5-leaf stage of growth (approximately 8 inches tall).

Dicamba may be included in the tank mixture with this product. Refer to the dicamba product label for the time intervals that are required between application and planting and other geographic use restrictions.

## COTTON

### Preplant

For control of horseweed, apply this product (32 fluid ounces per acre) in a tank-mix with Clarity (8 fluid ounces per acre). This application must be made 21 to 35 days before planting and before horseweed reaches 6 inches in height. In order to avoid crop injury, a minimum interval of 21 days during which there is at least 1 inch of cumulative rainfall must occur between Clarity application and planting of cotton.

2,4-D may be included in the tank mixture with this product. Refer to the 2,4-D product label for the time intervals that are required between application and planting and other geographic use restrictions.

### Post-directed (Roundup Ready Cotton and Roundup Ready Flex Cotton varieties only)

Management of early season weed competition and the development of a crop height differential between cotton and horseweed are often achieved by a combination of preplant burndown and postemergence over-the-top and/or directed applications of this product. These measures enhance the development of a height differential that is necessary to successfully make post-directed treatments. Make in-crop, post-directed applications of MSMA (2 pounds active ingredient per acre) tank-mixed with diuron (0.5 to 0.75 pound active ingredient per acre) when the temperature is 80°F or higher.

## SOYBEAN

### Preplant

It is strongly encouraged that horseweed be controlled prior to planting. Apply a tank mixture of this product (32 fluid ounces per acre) with 2,4-D (0.5 pounds active ingredient per acre) before horseweed exceeds 6 inches in height. See the 2,4-D product label for time intervals that are required between application and planting.

### In-crop (Roundup Ready Soybean and Roundup Ready 2 Yield Soybean varieties only)

This treatment can be used as a salvage treatment for a horseweed infestation that was not controlled prior to planting and before horseweed exceeds 6 inches in height. Apply a tank mixture of this product (32 fluid ounces per acre) with FirstRate (0.3 ounces per acre) between full emergence of the first trifoliate leaf and 50% flowering stage of soybean.

## TREE AND VINE CROPS

### Orchards (Pome Fruit, Stone Fruit and Tree Nuts)

Apply 2 quarts of this product plus up to 1 pound of 2,4-D per acre at the rosette stage and before marestalk exceeds 6 inches in height. Apply using a carrier volume of 15 gallons per acre. Ensure that the specific 2,4-D product being used is labeled for use with the crop being grown. Read and follow label directions for all products used in the tank mixture. Further local restrictions may apply.

#### Vine crops (grapes only)

Apply 2 quarts of this product plus up to 1 pound of 2,4-D per acre at the rosette stage before marestalk exceeds 6 inches in height. Apply using a carrier volume of 15 gallons per acre. Ensure that the specific 2,4-D product being used is labeled for use with the crop being grown. A residual herbicide, such as diuron, may provide additional preemergence control. Read and follow label directions for all products used in the tank mixture. Further local restrictions may apply.

#### NON-CROP AREAS

Apply 1 quart of this product per acre in a tank mixture with one or more the following products at the rosette stage before horseweed exceeds 6 inches in height. Ensure that the specific product being used is labeled for use on the target site. Refer to the product labels for approved sites and application rates. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used. Use according to the most restrictive precautionary statements for each product in the mixture.

2,4-D'	Krovar I DF	Overdrive	Velpar DF
Crossbow L	Landmark II MP	Telar DF	
dicamba'	Landmark MP	Transline	
Gallery 75 DF	Milestone	Vanquish	

Tank mixtures with products containing this generic active ingredient may be made provided the specific product is labeled for this use.

#### ATTENTION

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.

#### E. LIMITATIONS ON AERIAL APPLICATION IN CALIFORNIA ONLY, INCLUDING FRESNO COUNTY, CALIFORNIA

##### DIRECTIONS FOR USE

All labeled treatments may be made by aerial equipment where appropriate, provided that the applicator complies with the precautions and restrictions specified on this supplemental labeling and in the product label booklet. Refer to Aerial Equipment in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of the product label for additional information. Refer to the individual use site section of the product label, or to other supplemental labeling or technical Fact Sheets published separately for this product by TOPDOG 41% PLUS, for specific use instructions.

AVOID DRIFT-DO NOT APPLY WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION WHICH FAVORS DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

Use the following guidelines when aerial applications are made near crops or desirable perennial vegetation after bud break and before total leaf drop, and/or near other desirable vegetation or annual crops:

1. Do not apply within 100 feet of all desirable vegetation or crop(s).
2. If wind up to 5 miles per hour is blowing toward desirable vegetation or crop(s), do not apply within 500 feet of the desirable vegetation or crop(s).
3. Winds blowing from 5 to 10 miles per hour toward desirable vegetation or crop(s) may require buffer zones in excess of 500 feet.
4. Do not apply when winds are in excess of 10 miles per hour or when inversion conditions exist.

5. Apply by air only to nonresidential areas.

When applied as directed under the conditions described, this product controls annual and perennial weeds as listed in the label booklet.

When tank mixing this product with 2,4-D, only 2,4-D amine formulations may be used for aerial applications in California. Tank mixtures with 2,4-D amine formulations may be applied by air in California for fallow and reduced tillage systems, and alfalfa and pasture renovation applications only. This product, when tank mixed with dicamba, may not be applied by air in California.

ADDITIONAL INFORMATION FOR FRESNO COUNTY, CALIFORNIA

The following information applies only from February 15 through March 31 within the following boundaries of Fresno County, California:

North:	Fresno County line
South:	Fresno County line
East:	State Highway 99
West:	Fresno County line

Always read and follow the label directions and precautionary statements for all products used in the aerial application.

Observe the following directions to minimize off-site movement during aerial application of this product. Minimization of off-site movement is the responsibility of the grower, Pest Control Advisor and aerial applicator.

Written Recommendations

A written recommendation MUST be submitted by or on behalf of the applicator to the Fresno County Agricultural Commissioner 24 hours prior to the application. This written recommendation MUST state the proximity of surrounding crops, and that conditions of each manufacturer's product label and this label have been satisfied.

Aerial Applicator Training and Equipment

Aerial application of this product is limited to pilots who have successfully completed a Fresno County Agricultural Commissioner and California Department of Pesticide Regulation approved training program for aerial application of herbicides. All aircraft must be inspected, critiqued in flight and certified at a Fresno County Agricultural Commissioner approved fly-in. Test and calibrate spray equipment at intervals sufficient to insure that proper rates of herbicides and adjuvants are being applied during commercial use. Applicator must document such calibrations and testing. Demonstration of performance at Fresno County Agricultural Commissioner approved fly-ins constitutes such documentation, or other written records showing calculations and measurements of flight and spray parameters acceptable to the Fresno County Agricultural Commissioner.

Applications at Night-Do not apply this product by air earlier than 30 minutes prior to sunrise and/or later than 30 minutes after sunset without prior permission from the Fresno County Agricultural Commissioner.

To report known or suspected misuse of this product, call 1-800-332-3111.

For additional information on the proper aerial application of this product, call 916-784-1728.

Note: For aerial application from April 1 through February 14, refer to the other sections of this supplemental label.

F. AERIAL APPLICATION IN ARKANSAS ONLY

DIRECTIONS FOR USE

AVOID DRIFT. DO NOT APPLY INTO STILL AIR WHERE THERE IS A TEMPERATURE INVERSION LAYER LOW ENOUGH FOR FINE SPRAY PARTICLES TO BECOME SUSPENDED AND MOVE OUTSIDE THE TARGET AREA WHEN THE INVERSION LAYER MOVES. DO NOT APPLY WHEN

Specified

WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION THAT FAVORS DRIFT. DRIFT IS LIKELY TO CAUSE DAMAGE TO ANY VEGETATION CONTACTED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

Use the recommended rate of this product in 3 to 15 gallons of water per acre.

Use sufficient carrier volume and appropriate equipment set-up to form droplets large enough to avoid drift potential. Coarse droplets in the 300 to 500 (VMD) micron range are recommended.

Applications are typically to be made with the nozzle release point at 8 to 15 feet above the top of the target plants unless a greater height is required for aircraft safety.

The distance of the outermost nozzles on the boom must not exceed 75 percent of the length of the wingspan or rotor. In many cases, reducing this distance to 65 percent of the length of the wingspan or rotor will improve drift control without affecting the swath width.

Nozzles must always discharge backward parallel with the air stream and never discharge downwards more than 45 degrees on fixed wing aircraft or forward of the prevailing airflow on rotary winged aircraft. Avoid the use of nozzles with wide-angle discharge.

Do not apply this product when winds are in excess of 10 mph.

Do not apply when there is a low-level inversion where fine spray particles could be suspended in still air and move outside the target area when the inversion layer moves. These conditions may occur when wind speeds are less than 2 mph.

Use the following guidelines when applications are made near crops or other desirable vegetation:

1. Do not apply within 100 feet of any desirable vegetation or crops.
2. If wind up to 5 mph is blowing toward desirable vegetation or crops, do not apply within 500 feet upwind of the desirable vegetation or crops.
3. Winds blowing from 5 to 10 mph toward desirable vegetation or crops will likely require buffer zones in excess of 500 feet.

#### G. CONTROL OF BARNYARDGRASS (ECHINOCHLOA CRUS-GALLI) IN RICE USING RENOVATION TREATMENT IN CALIFORNIA ONLY

##### DIRECTIONS FOR USE

###### Renovation Treatment

USE INSTRUCTIONS: This product may be applied as a renovation treatment in rice crops to control barnyardgrass infestations using ground broadcast spray or hand-held equipment. Renovation is defined as herbicide treatment that will produce crop and weed destruction in an entire field or contiguous area treated within a field. Follow the application methods and treatment rates in the label booklet for TOPDOG 41% PLUS herbicide.

PRECAUTIONS, RESTRICTIONS: Crop sprayed in treated area will be killed. Take care not to spray or allow spray to drift outside the target area in order to avoid unwanted crop destruction. The rice straw and stubble from the treated area, including a 25-foot buffer zone on all sides, shall not be used for grazing, animal bedding or any feed purposes.

Aerial application is not permitted for rice renovation using this supplemental label.

#### H. USE IN ROUNDUP READY® ALFALFA SEED PRODUCTION

##### DIRECTIONS FOR USE

This product will control many troublesome emerged weeds with over-the-top (in-crop) application in Roundup Ready alfalfa grown for seed. In-crop application may be made from emergence through the late vegetative stage, and spot treatment may be made from early bud stage through seed harvest.

For ground application using broadcast equipment, apply this product in 3 to 40 gallons of spray solution per acre. Carefully select proper nozzle and spray pressure to avoid spraying a fine mist. For best results

with ground application equipment, use flat fan nozzles. Check for even distribution of spray droplets.

For aerial application, apply the appropriate rate of this product in 3 to 15 gallons of spray solution per acre.

DO NOT EXCEED 2 QUARTS OF THIS PRODUCT PER ACRE WHEN MAKING APPLICATION BY AIR. FOR AERIAL APPLICATION IN CALIFORNIA, REFER TO THE FEDERAL SUPPLEMENTAL LABEL FOR AERIAL APPLICATION OF THIS PRODUCT IN THAT STATE. AVOID DRIFT. USE EXTREME CARE WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS THAT DO NOT CONTAIN A GLYPHOSATE TOLERANCE GENE. Do not apply during low-level inversion conditions, when winds are gusty or under any other conditions that favor drift. Drift may cause damage to any vegetation contacted to which treatment is not intended. To prevent injury to adjacent desirable vegetation, appropriate buffer zones must be maintained.

See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of the label booklet for procedures to avoid spray drift that may cause injury to any vegetation not intended for treatment.

**Sprayer Preparation:** It is important that sprayer and mixing equipment be clean and free of pesticide residue before using to apply this product to Roundup Ready alfalfa. Follow the cleaning procedures specified on the label of the last product(s) used. Alfalfa can be very sensitive to many herbicides at extremely low concentrations and care must be taken to thoroughly clean all equipment prior to use.

**TYPES OF APPLICATION:** Preplant, At-planting, Preemergence, Postemergence, Spot Treatment, Postharvest of seed

**USE INSTRUCTIONS:** For specific rates of application and instructions for control of various annual and perennial weeds, refer to the "ANNUAL WEEDS RATE SECTION" and the "PERENNIAL WEEDS RATE SECTION" in the TOPDOG 41% PLUS label booklet. Some weeds with multiple germination times or suppressed (stunted) weeds may require a second application of this product after some re-growth has occurred for complete control.

This product will also suppress or control the parasitic weed, Dodder (*Cuscuta* spp.) in Roundup Ready alfalfa seed production fields. Repeat applications may be necessary for complete control.

Tank mixtures with other herbicides, insecticides, or fungicides may result in crop injury or reduced weed control. Buyer and all users are responsible for any and all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not expressly identified on this labeling, or in separate supplemental labeling or Fact Sheets for this product.

Maximum Application Rates	
Combined total per year for all applications	8 quarts per acre
Total Preplant, At-planting and Preemergence Applications	2 quarts per acre
Total in-crop application rate from emergence through the late vegetative stage*	6 quarts per acre

#### Postemergence (In-crop)

**USE INSTRUCTIONS:** Broadcast application of up to 2 quarts of this product per acre may be made over the top of Roundup Ready alfalfa from emergence through the late vegetative stage. Do not make a broadcast application of this product between the initiation of alfalfa budding and the harvest of seed. Make sequential applications of this product at least 7 days apart.

Due to the biology and breeding constraints of alfalfa, up to 10% of the seedlings are susceptible and will not survive or thrive after the first application of this product. Make a single application of at least 1 quart of this product per acre at or before the 3 to 4 trifoliate growth stage to eliminate the effects of stand gaps created by the loss of non-Roundup Ready plants.

### Spot Treatment

USE INSTRUCTIONS: For late emerging weeds, this product may be applied as a spot treatment in Roundup Ready alfalfa grown for seed during the early bud stage through seed harvest. Application made during this stage may result in reduced seed yield and quality, and are the responsibility of the grower. Make application on a spray-to-wet basis; do not spray to the point of runoff. If a spot treatment is made after the late vegetative stage, harvested seed must not be used for alfalfa sprout production.

### Post-Harvest

USE INSTRUCTIONS: Following harvest of Roundup Ready alfalfa seed, the stand may be managed for forage and hay production. Refer to the Roundup Ready alfalfa section of the TOPDOG 41% PLUS label booklet for use instructions in Roundup Ready alfalfa forage and hay production.

PRECAUTIONS, RESTRICTIONS: Do not make over-the-top (in-crop) broadcast applications of this product between the initiation of alfalfa budding and the harvest of Roundup Ready alfalfa seed. The use of harvested Roundup Ready alfalfa seed is not suitable for production of alfalfa sprouts. There are no rotational crop restrictions following application of this product. Any crop listed in the label booklet for TOPDOG 41% PLUS may be planted at any time; all other crops may be planted 30 days after application of this product.

## 1. APPLICATION TO ROUNDUP READY FLEX COTTON IN THE STATE OF ARIZONA ONLY

### DIRECTIONS FOR USE

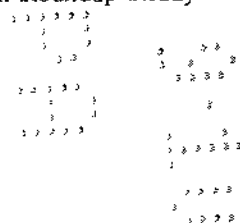
The use of the over-the-top applications described in this label on other than Roundup Ready Flex cotton will cause crop injury and reduced yields. Drift of this product from applications made to Roundup Ready Flex cotton onto adjacent fields of post 4-leaf (node) Roundup Ready cotton may cause extensive injury including boll loss, delayed maturity and/or yield loss.

NOTE: The instructions provided in this supplemental label are specific to, and are to be only used with varieties designated as Roundup Ready Flex cotton. DO NOT combine the instructions in this supplemental label with those in the "Roundup Ready Cotton" or "Roundup Ready Flex Cotton" sections found in the label booklet for TOPDOG 41% PLUS, or with any other Roundup Ready cotton or Roundup Ready Flex cotton instructions on labeling for this or other glyphosate-containing product. See "Maximum Use Rate" in the "PRODUCT INFORMATION" section of the label booklet for TOPDOG 41% PLUS for additional information.

ROUNDUP READY FLEX COTTON VARIETIES MUST BE PURCHASED FROM AN AUTHORIZED LICENSED SEED SUPPLIER. THE DESIGNATION, "ROUNDUP READY", INDICATES THE COTTON VARIETY CONTAINS A PATENTED PROPRIETARY TRAIT.

TYPES OF APPLICATION: Preplant, At-Planting, Preemergence, Postemergence (In-crop), Preharvest

USE INSTRUCTIONS: For specific rates of application and instructions, refer to the "ANNUAL WEED RATE SECTION" and "PERENNIAL WEED RATE SECTION" in the TOPDOG 41% PLUS label booklet. Refer to the following table for maximum application rates of this product with Roundup Ready Flex cotton.



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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#### Maximum Application Rates

Combined total per year for all applications	8 quarts per acre
Preplant, At-Planting, Preemergence applications	5 quarts per acre
Total of all in-crop applications from ground cracking to 60 percent open bolls	6 quarts per acre
Maximum allowed from 60 percent open bolls to 7 days prior to harvest	2 quarts per acre

#### Preplant, At-Planting, Preemergence

USE INSTRUCTIONS: This product may be applied before, during or after planting Roundup Ready Flex cotton.

#### Postemergence (In-Crop)

USE INSTRUCTIONS: When applied in accordance with this label, TOPDOG 41% PLUS will control annual grasses and broadleaf weeds listed on the product label in Roundup Ready Flex cotton. To maximize yield potential, eliminate competing weeds early. Many perennial weeds will be controlled or suppressed with one or more applications of this product. Use an initial application of 1 quart per acre to control or suppress 1 to 3 inch tall annual grass and broadleaf weeds. This product may be applied using ground application equipment at rates up to 2 quarts per acre per application postemergence to Roundup Ready Flex cotton. In addition to broadcast application, post-directed equipment may be used to achieve weed coverage.

PRECAUTIONS, RESTRICTIONS: The maximum rate for any single in-crop application of this product is 2 quarts per acre made using ground application equipment. In-crop application rates above 1 quart per acre made alone, or with the addition of other crop chemical products containing surfactant, may cause a crop response, including leaf speckling or leaf necrosis. Do not exceed a maximum rate of 3 pints of this product per acre when making application by air. Between layby and 60 percent open bolls, the maximum combined total rate of this product that may be applied is 2 quarts per acre. The maximum combined total of all applications made from crop emergence to 60 percent open bolls must not exceed 6 quarts per acre.

#### Preharvest

USE INSTRUCTIONS: This product may be applied for preharvest annual and perennial weed control at up to 2 quarts per acre prior to harvest of Roundup Ready Flex cotton after 60 percent boll crack.

NOTE: This product will not enhance the performance of harvest aids when applied to Roundup Ready Flex cotton.

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 7 days between application and harvest of Roundup Ready Flex cotton.

ATTENTION: USE OF THIS PRODUCT IN ACCORDANCE WITH LABEL DIRECTIONS IS EXPECTED TO RESULT IN NORMAL GROWTH OF ROUNDUP READY FLEX COTTON, HOWEVER, DUE TO THE SENSITIVITY OF COTTON FRUITING TO VARIOUS ENVIRONMENTAL CONDITIONS, AGRONOMIC PRACTICES AND OTHER FACTORS, IT IS IMPOSSIBLE TO ELIMINATE ALL RISKS ASSOCIATED WITH THIS PRODUCT, EVEN WHEN APPLICATION IS MADE IN CONFORMANCE WITH THE LABEL DIRECTIONS. IN SOME CASES, THESE FACTORS CAN RESULT IN BOLL LOSS, DELAYED MATURITY AND/OR YIELD LOSS.

## J. BROADCAST APPLICATION IN CHRISTMAS TREE PLANTATIONS

### DIRECTIONS FOR USE

NOTE: IF IMPROPERLY APPLIED, THIS PRODUCT HAS THE POTENTIAL TO CAUSE SEVERE CHRISTMAS TREE INJURY. FOLLOW ALL LABEL DIRECTIONS.

This product may be applied as a broadcast spray over established Christmas trees. Ensure that adequate buffers are maintained to prevent drift onto nearby desirable crops or vegetation. Read the entire "APPLICATION EQUIPMENT AND TECHNIQUES" section of the TOPDOG 41% PLUS label booklet for additional application precautions.

This application is approved for the following Christmas tree species:

Douglas fir (*Pseudotsuga menziesii*)

Fir species (*Abies* spp.)

Spruce species (*Picea* spp.)

Application may be made only after trees have completed at least a full growing season since planting or transplanting and 1 full year prior to tree harvest.

Application may only be made in the fall after the formation of final conifer resting buds. Final resting buds must be fully hardened and in the dormant stage. Application made at any other time may result in unacceptable Christmas tree injury.

Avoid spray pattern overlap, as injury may occur.

Apply 1 quart of this product per acre in 5 to 30 gallons of water per acre.

NOTE: DO NOT ADD SURFACTANTS, ADDITIVES CONTAINING SURFACTANTS, OR ANY OTHER ADDITIVES TO THIS PRODUCT AS SEVERE CHRISTMAS TREE INJURY MAY RESULT.

This product may be used at rates from 1 to 2 quarts per acre in some areas. Consult your local REPAR CORPORATION representative or TOPDOG 41% PLUS supplier for specific use instructions if you require rates greater than 1 quart per acre.

Drift control additives may increase Christmas tree injury.

Do not tank-mix this product with other herbicides as severe Christmas tree injury may result.

## K. SELECTIVE WEED CONTROL ON TOPDOG 41% PLUS-TOLERANT PURE GOLD® TALL FESCUE AND AURORA GOLD® FINE FESCUE SELECTIONS

### DIRECTIONS FOR USE

Use this product on TOPDOG 41% PLUS-tolerant tall and fine fescue grown for seed production only.

This product may be applied at rates of 4 to 16 fluid ounces per acre as a postemergence spray on TOPDOG 41% PLUS-tolerant tall fescue selections. See the label booklet for application instructions, rates, weeds controlled and appropriate growth stage of weeds.

When applied postemergence, this product will control or suppress the following weeds: annual bluegrass, mustards, downy brome, cheatgrass, chickweed, pennycress, fleabane, shepherd's-purse, sowthistle, wild oat, dandelion, quackgrass, and Canada thistle. See the TOPDOG 41% PLUS label booklet for a complete list of weeds controlled or suppressed.

The application rate for this use will limit the level of control of certain species of weeds.

Some crop discoloration and yellowing may occur at higher rates of application with TOPDOG 41% PLUS-tolerant tall and fine fescue selections. Reduction in stand of these selections may occur under stress conditions.

Timing of Application

Application can be made 6 weeks after germination and to established crops after growth resumes in the fall until onset of dormancy, and in the spring after dormancy break until 60 days prior to harvest.

Avoid spraying during or within two weeks after periods when air temperatures fall below 25°F.

Remove domestic livestock from the seed production field prior to application. Wait 60 days after making this application before grazing or harvesting the treated area.

NOTE: Only two applications per crop growth cycle may be made to any one site. If two applications are required, only one fall and one spring application may be made during one 12 month cycle.

## L TANK MIXTURES FOR TOUGH TO CONTROL WEEDS

### DIRECTIONS FOR USE

Use in areas including airports, apartment complexes, Christmas tree farms, commercial sites, ditch banks, dry ditches, dry canals, fencerows, golf courses, greenhouses, industrial sites, landscape areas, lumber yards, manufacturing sites, municipal sites, natural areas, office complexes, ornamentals, parks, parking areas, pastures, petroleum tank farms and pumping installations, plant nurseries, public areas, railroads, rangeland, recreational areas, residential areas, rights-of-way, roadsides, schools, sod or turf seed farms, sports complexes, storage areas, substations, turfgrass areas, utility sites, warehouse areas, and wildlife management areas.

Do not allow spray mixtures of this herbicide to mist, drip, drift or splash onto desirable vegetation since injury or destruction may occur. Do not apply when wind or other conditions favor drift.

See the "WEEDS CONTROLLED" section of the TOPDOG 41% PLUS label booklet for specific rates. For tough to control species, where dense stands occur, or where conditions for control are not ideal, 5 to 10 quarts per acre of this product can be used for improved results.

### TANK MIXTURES

This product provides control of the emerged weeds listed in the label booklet. When applied as a tank mixture, the following herbicides will provide preemergence and/or postemergence control of the weeds listed in the individual product labels.

The following list of products may be tank mixed with this product, provided that the specific product is labeled for application to the target site. Any labeled rate of this product may be used in a tank mixture with these products. Refer to these product labels for approved sites and application rates.

2,4-D'	Hyvar X	Plateau DG
Arsenal	Hyvar X-L	Poast
atrazine'	Krenite	Quicksilver
Barricade 65WG	Krovar 1 DF	Ronstar 50 WSP
Crossbow L	Landmark II MP	Sahara DG
dicamba'	Landmark MP	simazine'
diuron'	Landmark XP	Spike 80DF
Endurance	Milestone	Surflan AS
Escort	Oust XP	Surflan WDG
Escort XP	Outrider	Telar DF
Gallery 75 DF	Overdrive	Transline
Garlon 3A	pendimethalin'	Velpar DF
Garlon 4	Plateau	Velpar L
Goal 2XL		

Tank mixtures with products containing this generic active ingredient may be made provided the specific product is labeled for this use.

Refer to the individual product labels for specific sites, rates, carrier volumes and precautionary statements.

Read and carefully observe the label claims, cautionary statements, use rates and all other information on the labels of all products used in these tank mixtures. Use according to the most restrictive label directions for each product in the mixture.

Maintain good agitation at all times during the mixing process. Ensure that the tank-mix products are well mixed with the spray solution before adding this product.

Mix only the quantity of spray solution that can be used during the same day. Tank mixtures allowed to stand overnight may result in reduced weed control.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to re-suspend the mixture before spraying is resumed.

When used in combination as directed by REPAR CORPORATION, the liability of REPAR CORPORATION shall in no manner extend to any damage, loss or injury not solely and directly caused by the inclusion of the REPAR CORPORATION product in such combination use.

Outrider is a trademark of Monsanto Technology LLC. All other trademarks are the property of their respective owners.

## M. GROUND AND AERIAL APPLICATION TO BRUSH AND CHAPARRAL IN CALIFORNIA ONLY

### DIRECTIONS FOR USE

Repeat treatments may be necessary to control weeds regenerating from underground parts or seeds.

Nonionic surfactants that are labeled for use with herbicides may be used to improve wetting of foliage. Do not reduce rates of TOPDOG 41% PLUS when adding surfactant. Read and carefully observe surfactant rates, cautionary statements, and other information appearing on the surfactant label.

**TIMING OF APPLICATION:** Apply this product as a broadcast spray when plants are actively growing for partial control of undesirable vegetation listed on this label. Best results are obtained when application is made in the spring to early summer when brush species are at a high moisture content and flowering.

This product may be used as directed for:

- Aid to burning treatment to establish and maintain fuel breaks
- Establishing fire perimeters and black lines
- Aid to prescribed burning
- Along fire roads and rights-of-way

**USE INSTRUCTIONS:** Apply 2 quarts of this product per acre for partial control of the following emerged brush and chaparral species:

Ceanothus	Sage
Ceanothus spp.	Salvia spp.
Chamise	Scrub oak
Adenostoma fasciculatum	Quercus dumosa

Make ground application in 3 to 40 gallons of total spray solution per acre.

Make aerial application (helicopter only) in 3 to 15 gallons of total spray solution per acre.

Avoid direct application to any body of water.

**AVOID DRIFT-DO NOT APPLY WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION WHICH FAVORS DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.**

For aerial application of this product, please see the supplemental label directions for aerial application in California.

## N. CONIFER RELEASE

### DIRECTIONS FOR USE

#### AERIAL APPLICATION

This product may be applied using aerial spray equipment for conifer release treatments.

**DO NOT APPLY THIS PRODUCT BY AIR TO RIGHTS-OF-WAY SITES IN THE STATE OF CALIFORNIA.**

#### CONIFER RELEASE

For release, apply only where conifers have been established for more than one year. Do not disturb vegetation prior to treatment or until visual symptoms appear after treatment. Symptoms of treatment are slow to appear, especially in woody species treated in late fall. Injury may occur to conifers treated for release, especially where spray patterns overlap or the higher rates are applied or when application is made during periods of active conifer growth. Do not use additional surfactant with conifer release applications.

Application must be made after formation of final conifer resting buds in the fall or prior to initial bud swelling in spring. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Use the following rates for conifer release to control or partially control the weeds listed in the "WEEDS CONTROLLED" section of the label booklet for TOPDOG 41% PLUS herbicide.

For release of the following conifer species:

Douglas Fir	Pines*
Pseudotsuga menziesii	Pinus spp.
Fir	Spruce
Abies spp.	Picea spp.
Hemlock	
Tsuga spp.	

\*Includes all species except eastern white pine, loblolly pine and slash pine.

Apply 1.5 to 2 quarts of this product per acre except in Washington and Oregon, west of the crest of the Cascade Mountains. For spring treatment west of the crest of the Cascade Mountains, apply 1 quart of this product per acre before conifer bud swell for control of annual weeds. For fall treatment in Washington and Oregon, west of the crest of the Cascade Mountains, apply 1 to 1.5 quarts of this product per acre before any major leaf drop of deciduous species. For release of western hemlock apply 1 quart of this product per acre. For release of the following conifer species:

Loblolly pine	Slash pine
Pinus taeda	Pinus elliottii
Eastern white pine	
Pinus strobus	

Late Season Application-Apply 1.5 to 2 quarts of this product in a minimum of 5 gallons of spray solution per acre during early autumn. Application made prior to September 1 or when conditions are conducive to rapid growth of conifers will result in potential for increased injury in the form of tip and/or needle burn. Injury may decrease with later application. Some autumn colors are acceptable at time of application. Apply prior to frost or leaf drop of undesirable plants. Application made according to label direction will release loblolly pine, eastern white pine and slash pine by reducing competition from the following species:

Ash	Oak, southern red
Fraxinus spp.	Quercus falcate
Cherry, black	Oak, white
Prunus serotina	Quercus alba
Cherry, pin	Persimmon
Prunus pensylvanica	Diospyros spp.
Elm	Poplar, yellow
Ulmus spp.	Liriodendron tulipifera
Hawthorn	Sassafras
Crataegus spp.	Sassafras albidum
Locust, black	Sourwood
Robina pseudoacacia	Oxydendrum arboreum
Maple, red	Sumac, poison
Acer rubra	Rhus vernix
Oak, black	Sumac, smooth
Quercus velutina	Rhus glabra
Oak, post	Sumac, winged
Quercus stellata	Rhus copallina
	Sweetgum
	Liquidambar styraciflu

Apply only to those sites where woody brush and trees listed on this label constitute the majority of the undesirable species.

#### TOPDOG 41% PLUS HERBICIDE PLUS OUST TANK MIXTURE FOR CONIFER RELEASE FROM HERBACEOUS WEEDS

To release loblolly pines from herbaceous weeds, tank mixture of this product with Oust will provide control of annual weeds listed in the of the label booklet for TOPDOG 41% PLUS herbicide and the Oust label, and partial control of the perennial weeds listed below.

Apply 16 to 24 fluid ounces of [INSERT. BRAND NAME] herbicide with 2 to 4 ounces of Oust in 10 to 30 gallons of spray solution per acre. Make application to actively growing weeds as a broadcast spray over the top of the young loblolly pines.

This product plus Oust tank mixtures may not be applied by air in California.

This tank mixture may be applied using aerial equipment. When applying by air, apply the appropriate rate in 5 to 15 gallons of spray solution per acre.

For control of annual weeds below 12 inches in height (or runner length on annual vines), use the low rates of both products. Use the higher rates of both products when annual weeds are in more advanced stages of growth and approaching flower or seed formation.

Use the higher rates of both products for partial control of the following perennial weeds. Use the lower rates for suppression of growth.

Bahiagrass	Johnsongrass**
Paspalum notatum	Sorghum halepense
Broomsedge	Poorjoe**
Andropogon virginicus	Diodia teres
Dock, curly	Trumpet creeper*
Rumex crispus	Campsis radicans
Dogfennel	Vaseygrass
Eupatorium capillifolium	Paspalum urvillei
Fescue, tall	Vervain, blue
Festuca arundinacea	Verbena hastata

\*Suppression at the higher rates only

\*\*Control at the higher rates

Pine damage may occur or can be accentuated if treatment takes place when young trees are under stress from drought, flood water, insects or disease.

Read and observe the cautionary statements and all other information appearing on the labels of all herbicides used.

## 0. CONTROL AND MANAGEMENT OF GLYPHOSATE-RESISTANT AMARANTHUS spp. IN CORN, COTTON, AND SOYBEAN

### DIRECTIONS FOR USE

This product may be tank-mixed with other herbicides for application in accordance with label directions. Follow all precautions and use instructions contained within each product's labeling, and use in accordance with the most restrictive label limitations. Some products have the potential to cause crop injury under certain conditions, at certain crop growth stages, and/or other circumstances. Read all labels for products used in tank mixtures to determine the potential for injury prior to use. Always predetermine the compatibility of all products used in the tank mixture by mixing small proportional quantities in advance. A tank mixture of this product with other herbicides may cause incompatibility, antagonism, or a reduction in product efficacy. REPAR CORPORATION has not tested all tank-mix product formulations for compatibility, performance, and crop safety.

#### Management of Glyphosate-Resistant Amaranthus spp.

If a naturally occurring glyphosate-resistant biotype of an Amaranthus species is present, this product can be tank-mixed or applied sequentially with an appropriately labeled herbicide with a different mode of action to achieve control. Cultural and mechanical control practices (e.g. crop rotation or tillage) may also be used as appropriate.

Not all herbicides are registered in each state or for all sites or crops for the management of Amaranthus spp. When TOPDOG 41% PLUS is used in combination with other herbicides, refer to each product's label and observe all precautions and limitations on the label.

Tillage or a burndown herbicide application is encouraged prior to planting.

### CORN

#### Preplant, At-Planting, Preemergence to Corn

Apply TOPDOG 41% PLUS, to control emerged weeds, in a tank-mix with a preemergence residual herbicide such as Harness Xtra, Harness Xtra 5.6L, Degree Xtra or another residual herbicide for the control of Amaranthus spp.

#### Postemergence in Corn Hybrids with Roundup Ready 2 Technology (in-crop)

Corn hybrids with Roundup Ready 2 Technology include Roundup Ready Corn 2 and seed products displaying the Roundup Ready 2 Technology logo.

#### Preemergence to glyphosate-resistant Amaranthus spp.

Apply TOPDOG 41% PLUS, to control emerged weeds, in a tank-mix with a preemergence residual herbicide product such as Harness Xtra, Harness Xtra 5.6L, Degree Xtra or another residual herbicide for the control of Amaranthus spp.

#### Postemergence to glyphosate-resistant Amaranthus spp.

Apply TOPDOG 41% PLUS in a tank-mix with other herbicides such as 2,4-D or dicamba (Clarity, Banvel, or Distinct), to control emerged weeds, and a residual herbicide product such as Harness Xtra, Harness Xtra 5.6L, Degree Xtra for continued control of Amaranthus spp. Observe all maximum annual application rate and timing restrictions.

### COTTON

#### Preplant, At-Planting, Preemergence to Cotton

Apply TOPDOG 41% PLUS, to control emerged weeds, in a tank-mix with a preemergence soil residual herbicide product labeled for control of Amaranthus spp., such as pendimethalin (Prowl H20) and/or fluometuron (Cotoran).

#### Postemergence (In-crop) in Roundup Ready Flex Cotton and Roundup Ready Cotton

##### Preemergence to glyphosate-resistant Amaranthus spp.

Apply TOPDOG 41% PLUS, to control emerged weeds, in a tank-mix with metolachlor prior to the 4-leaf stage in cotton for the control of Amaranthus spp.

##### Preemergence to glyphosate-resistant Amaranthus spp. at layby

Apply TOPDOG 41% PLUS, to control emerged weeds, in a tank-mix with a residual herbicide product such as diuron (Direx) or flumioxazin (Valor) post-directed to control Amaranthus spp.

##### Postemergence to glyphosate-resistant Amaranthus

Apply TOPDOG 41% PLUS, to control emerged weeds, in a tank-mix of MSMA and diuron (Direx) or flumioxazin (Valor), to control emerged Amaranthus spp.

#### SOYBEAN

#### Preplant, At-Planting, Preemergence to Soybean

##### Preemergence to glyphosate-resistant Amaranthus spp.

Apply TOPDOG 41% PLUS, to control emerged weeds, in a tank-mix with a preemergence residual herbicide product such as alachlor (INTRRO) or another residual herbicide for control of Amaranthus spp. For preplant application, 2,4-D may be added to the tank-mix to help control emerged broadleaf weeds. Follow label instructions regarding application timing relative to soybean planting.

##### Postemergence to glyphosate-resistant Amaranthus spp.

Apply TOPDOG 41% PLUS, to control emerged weeds, in a tank-mix with lactofen (Cobra) or fomesafen (Flexstar) to control emerged Amaranthus spp.

## P. CONTROL AND MANAGEMENT OF GLYPHOSATE-RESISTANT RYEGRASS

### DIRECTIONS FOR USE

This product may be tank-mixed with other herbicides for application in accordance with label directions. Follow all precautions and use instructions contained within each product's labeling in accordance with the most restrictive label limitations. Some products have the potential to cause crop injury under certain conditions, at certain crop growth stages and/or under other circumstances. Read all labels for products used in tank mixtures to determine the potential for crop injury prior to use. Always predetermine the compatibility of all products used in the tank mixture by mixing small proportional quantities in advance. A tank mixture of this product with other herbicides may cause incompatibility, antagonism, or a reduction in product efficacy. REPAR CORPORATION has not tested all tank-mix product formulations for compatibility, performance, and crop safety.

Not all herbicides are registered in each state or for all use-sites (orchards, non-crop areas, or ditch banks) or crops for the management of ryegrass. When TOPDOG 41% PLUS is used in combination with other herbicides, refer to each product label and observe all precautions and limitations.

#### Preemergence to Glyphosate-Resistant Ryegrass

Apply TOPDOG 41% PLUS, to control other emerged weeds, in a tank-mix with a preemergence herbicide product labeled for control of ryegrass.

#### Preemergence and Postemergence to Glyphosate-Resistant Ryegrass

Apply TOPDOG 41% PLUS, to control other emerged weeds, in a tank-mix with a residual preemergence herbicide product and a postemergence herbicide product (other than glyphosate)



labeled for control of ryegrass. Make application before ryegrass exceeds 4 inches in height.

#### Postemergence to Glyphosate-Resistant Ryegrass

Apply TOPDOG 41% PLUS to control other emerged weeds, in a tank-mix with another postemergence herbicide product labeled for control of ryegrass. Make application before ryegrass exceeds 4 inches in height.

### Q. CONTROL AND MANAGEMENT OF GLYPHOSATE-RESISTANT COMMON AND GIANT RAGWEED (*Ambrosia* spp.) IN CORN, COTTON AND SOYBEAN

#### DIRECTIONS FOR USE

##### Management of Glyphosate-Resistant Ragweed Species

To control a naturally occurring glyphosate-resistant biotype of common or giant ragweed, this product can be tank-mixed or applied sequentially with an appropriately labeled herbicide with a different mode of action. Cultural and mechanical control practices (e.g. crop rotation or tillage) may also be used as appropriate.

Not all herbicides are labeled for management of ragweed species in all states or for all sites and crops. When this product is used in combination with other herbicides, refer to each product's label and observe all precautions and limitations on the label.

Tillage or a burndown herbicide application is encouraged prior to planting.

#### CORN

##### Preplant, At-Planting, Preemergence to Corn

Apply this product, to control emerged weeds, in a tank-mix with a preemergence residual herbicide containing atrazine, such as Harness Xtra®, Harness Xtra 5.6L, Degree Xtra® or another residual herbicide labeled for control of ragweed species prior to the emergence of corn.

##### Postemergence in Corn Hybrids with Roundup 2 Technology (In-crop)

###### Preemergence to glyphosate-resistant ragweed species

Apply this product, to control emerged weeds, in a tank-mix with a preemergence residual herbicide containing atrazine, such as Harness Xtra, Harness Xtra 5.6L, Degree Xtra or another residual herbicide labeled for the control of ragweed species.

###### Postemergence to glyphosate-resistant ragweed species

Apply this product in a tank-mix with another herbicide, such as 2,4-D or dicamba (Clarity, Banvel or Distinct) to control emerged weeds, and a residual herbicide such as Harness Xtra, Harness Xtra 5.6L, or Degree Xtra for continued control of ragweed species. Observe maximum annual application rates and timing restrictions for these products.

#### COTTON

##### Preplant, At-Planting, Preemergence to Cotton

###### Preemergence to glyphosate-resistant common ragweed species

For burndown application, apply this product, to control emerged weeds, in a tank-mix with a preemergence broadleaf herbicide such as Clarity or 2,4-D. For preplant applications, 2,4-D may be added to the tank-mix to help control emerged broadleaf weeds. Follow label directions regarding application timing relative to planting cotton. For applications after planting but prior to the emergence of cotton, apply this product, to control, emerged weeds, in a tank-mix with the preemergence residual herbicide Cotoran for continued control of common ragweed.

#### SOYBEAN

##### Preplant, At-Planting, Preemergence to Soybean

###### Preemergence to glyphosate-resistant ragweed species

Apply this product, to control emerged weeds, in a tank-mix with a preemergence residual herbicide

such as cloransulam (FirstRate) where ALS resistance is not an issue. For preplant application, 2,4-D may be added to the tank-mix to help control emerged broadleaf weeds. Follow label directions regarding timing relative to planting soybean.

Postemergence to glyphosate-resistant ragweed species.

Apply this product, to control emerged weeds, in a tank-mix with cloransulam (FirstRate), lactofen (Cobra) or fomesafen (Flexstar) to control emerged ragweed species.

**PRECAUTIONS, RESTRICTIONS:** Always read and follow all label directions for all products in the tank mixture. Some products have the potential to cause crop injury under certain conditions, growth stage and/or other circumstances. Read the label of all products used in the tank-mix prior to use to determine the potential for crop injury. Tank mixtures of this product with other herbicides may cause incompatibility, antagonism, or a reduction in product efficacy. REPAR CORPORATION has not tested all product formulations for compatibility, performance, and crop safety.

Not all herbicides are registered in every state or for all sites and crops for the management of ragweed species. When a tank-mix with a generic active ingredient, such as 2,4-D or atrazine is listed on this label, the user is responsible for ensuring that the specific application being made is included on the label of the product being used in the mixture.

Always predetermine the compatibility of all tank-mix products together in the carrier by mixing small proportional quantities prior to mixing in the spray tank.

Refer to individual product labels for precautions and restrictions; use according to the most restrictive precautionary statements for each product in the tank-mix.

## R. CONTROL AND MANAGEMENT OF GLYPHOSATE-RESISTANT JOHNSONGRASS IN CORN, COTTON AND SOYBEAN

### DIRECTIONS FOR USE

A naturally occurring glyphosate-resistant biotype of johnsongrass can be controlled in corn, cotton and soybean cropping systems by using this product along with an herbicide with a different mode of action labeled for preemergence and/or postemergence control of johnsongrass in combination with appropriate cultural weed control practices (e.g. crop rotation). Application of an herbicide with a different mode of action can be made either in a single tank-mix application with this product or in sequential applications.

#### CORN

##### Preplant, At-Planting, Preemergence to Corn

Control emerged weeds with a burndown application prior to planting or the emergence of corn. For burndown, apply this product before, during or after planting, but prior to crop emergence, to control a broad spectrum of emerged weeds, along with Harness Xtra, Harness Xtra 5.6L or Degree Xtra for additional weed control and suppression of emerged johnsongrass.

##### Postemergence in Corn Hybrids with Roundup Ready 2 Technology (in-crop)

Apply this product to control emerged weeds and in a tank-mix with Accent (nicosulfuron), Equip (foramsulfuron and iodosulfuron), or Option (foramsulfuron) for additional weed control and suppression of emerged johnsongrass.

#### COTTON

##### Preplant, At-Planting, Preemergence to Cotton

Control emerged weeds with a burndown application prior to planting or the emergence of cotton. For burndown, this product can be applied before, during or after planting cotton, but prior to crop emergence, to control a broad spectrum of emerged weeds. For additional control or suppression of rhizome johnsongrass prior to planting cotton, apply this product along with a product containing pendimethalin or trifluralin. For additional control of emerged johnsongrass, apply this product in a tank-mix with SelectMAX (clethodim), Assure II (quizalofop) or Poast Plus (sethoxydim).

##### Postemergence to Roundup Ready Flex Cotton and Roundup Cotton (In-crop)

Apply this product to control emerged weeds and in a tank-mix with SelectMAX (clethodim), Assure II (quizalofop) or Poast Plus (sethoxydim) for the suppression of emerged johnsongrass.

#### SOYBEAN

##### Preplant, At-Planting, Preemergence to Soybean

Control emerged weeds with a burndown application prior to planting or the emergence of soybean. For burndown, apply this product before, during or after planting, but prior to crop emergence, to control a broad spectrum of emerged weeds. For control or suppression of rhizome johnsongrass, apply this product in a tank-mix with a product containing one of the following active ingredients: alachlor, metolachlor, pendimethalin, or trifluralin. For suppression of emerged johnsongrass, apply this product in a tank-mix with SelectMAX (clethodim), Assure II (quizalofop) or Poast Plus (sethoxydim).

Postemergence to Roundup Ready Soybean and Roundup Ready 2 Yield Soybean (in-crop). Apply this product to control emerged weeds and in a tank-mix with SelectMAX (clethodim), Assure II (quizalofop) or Poast Plus (sethoxydim) for the suppression of emerged johnsongrass.

**PRECAUTIONS/RESTRICTIONS:** Always read and follow all label directions for all products in the tank mixture. Some products have the potential to cause crop injury under certain conditions, growth stage and/or other circumstances. Read the label of all products used in the tank-mix prior to use to determine the potential for crop injury. Tank mixtures of this product with other herbicides may cause incompatibility, antagonism, or a reduction in product efficacy. REPAR CORPORATION has not tested all product formulations for compatibility, performance, and crop safety.

Not all herbicides are registered in every state or for all sites and crops for the management of johnsongrass species. When a tank-mix with a generic active ingredient, such as alachlor, metolachlor, pendimethalin or trifluralin is listed on this label, the user is responsible for ensuring that the specific application being made is included on the label of the product being used in the mixture.

Always predetermine the compatibility of all tank-mix products together in the carrier by mixing small proportional quantities prior to mixing in the spray tank.

Refer to individual product labels for precautions and restrictions; use according to the most restrictive precautionary statements for each product in the tank-mix.

#### S. FOLIAR AND BROADCAST TREATMENT OF JAPANESE KNOTWEED AND ORIENTAL BITTERSWEET

##### DIRECTIONS

##### JAPANESE KNOTWEED

For control of Japanese knotweed (*Polygonum cuspidatum*), this product may be applied as a 2.5-percent (by volume) spray-to-wet solution. Ensure thorough coverage when using spray-to-wet treatments using hand-held equipment.

For broadcast application, apply 4 quarts of this product in 3 to 40 gallons of spray solution per acre.

Late summer or fall application is ideal, while leaves are still green and after fruit formation.

##### ORIENTAL BITTERSWEET

For control of Oriental bittersweet (*Celastrus orbiculatus*), this product may be applied as a 2.0-percent (by volume) spray-to-wet solution. Ensure thorough coverage when using spray-to-wet treatments using hand-held equipment.

For broadcast application, apply 3 quarts of this product in 3 to 40 gallons of spray solution per acre.

Late summer or fall application is ideal, while leaves are still green and after fruit formation.

**FOR OFFICIAL USE ONLY**

FILE SYMBOL

69361-E1

REGISTRATION NO.

**CONFIDENTIAL STATEMENT OF FORMULA ENCLOSED**

DATE SUBMITTED	SUBMITTED BY (✓)	
	APPLICANT	BASIC SUPPLIER
4/9/10		

**Do Not Write Comments,  
Formula, or Parts of Formula  
on This Envelope**

**NOTE**

It shall be unlawful—for any person to use for his own advantage or to reveal, other than to the Secretary, or officials or employees of the United States Department of Agriculture or other Federal agencies, or to the courts in response to a subpoena, or to physicians, and in emergencies to pharmacists and other qualified persons, for use in the preparation of antidotes, in accordance with such directions as the Secretary may prescribe, any information relative to formulas of products acquired by authority of Section 4 of the "Federal Insecticide, Fungicide, and Rodenticide Act."

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